

# 2015

## ANNUAL REPORT

### FSFEI HE “VORONEZH STATE UNIVERSITY” 2015

Rector’s Address	3
University Governance	11
University Strategic Development	37
Education	71
Research and Informatisation	121
Innovation Activities and Technology Commercialization	173
Economic and International Cooperation	247
Student Affairs and Social Development	281
Construction and Maintenance	309
Military Education at VSU	321
VSU Regional Scientific Library	329
“Galichya Gora” Nature Reserve	337
VSU Centre for Information and PR Policy	341
SUBJECT INDEX	350





## RECTOR'S ADDRESS





## RECTOR'S ADDRESS



**D.A. Endovitsky**

The Rector of Voronezh State University

For the staff of Voronezh State University, as well as the Russian academic community as a whole, 2015 was a year marking an important anniversary of the victory in the Great Patriotic War. The preparation for this important date involved a number of well-targeted and outstanding activities and events comprising all areas of university life, including education, research, culture, social, and community work. The experience gained is to become part of the best practices and achievements, which will be reinforced and built upon in the future.

Patriotism, understood as a desire and readiness to act for the love of your country, and your university in particular, as well as a pursuit to promote their strengthening and development, was the idea lying at the heart of all the activities, and thus uniting all generations of the university.

It must be said that, as far as the economic circumstances are concerned, the past year was hardly an easy one. The crisis that developed at national and international levels did not fail to make a direct impact on us, requiring considerable efforts to be made in order to deal with the negative tendencies. Yet, it is with satisfaction that we note that we have dealt with all the hardships of 2015 with minimal losses, while remaining true to the chosen "development path". The general understanding of the fact that one cannot maintain their level without a willingness to hold a steady course into the future may be considered another one of the University's important achievements in 2015.

We have demonstrated a clear leadership position in the region, which has been pointed out by Governor of the Voronezh region Alexey Gordeev, First Deputy Minister of Education and Science of the Russian Federation Natalia Tretyak, and the Deputy Chairperson of the Council of the Federation Galina Karelova. Our status has also been proved by a number of independent and international rankings, as well as the results of the monitoring carried out by the Ministry of Education and Science of the Russian Federation and national academic accreditation.



The materials included in the rather extensive Annual Report appear to provide us with an opportunity to analyse our current achievements, challenges, and areas of growth, as well as to determine future tasks, both short-term and long-term. It is this thoughtful and critical approach that I would hope and ask everyone to adhere to.

Another point I must mention is that in the past year, we have become stronger in many respects. We have felt ourselves to be an integral element of the national and regional academic community, ready and able to deal with the objectives set for us by the country and society in a responsible and conscious manner. Furthermore, it is particularly encouraging to know that we have not become big-headed or unable to adequately evaluate the results of our work; nor are we any less scrupulous about what is yet to be done. We must not be afraid to face challenges; we are ready for active creative work. I consider this the main conclusion we made based on the results of 2015.

A year ago, we made the first step on the five-year road towards the University's centennial. 2015 was the second step. The three years ahead of us will definitely be productive and fruitful, and will clearly demonstrate how efficient Voronezh State University is at carrying out its mission as the regional centre of education, science, and culture, as well as the leader of the local academic community.

## **KEY FACTORS SHAPING THE DEVELOPMENT OF VORONEZH STATE UNIVERSITY IN 2015**

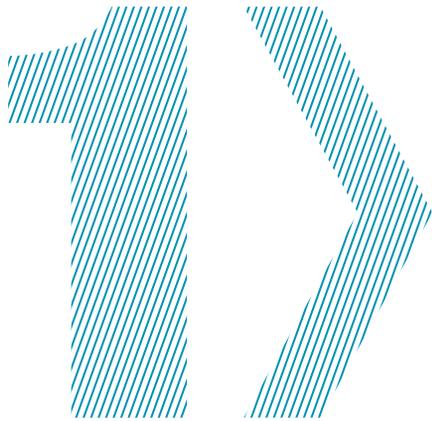
In their work in 2015, the University administration and VSU's academic and teaching staff were primarily guided by public policy goals and objectives in the area of education and science. These goals and objectives were defined by President of the Russian Federation Vladimir Putin, the Federal Law On Education, and the regulations from the Ministry of Education and Science of the Russian Federation.

At the regional level, these goals were delineated by the Governor of the Voronezh Region Alexey Gordeev, the Department of Education, Science, and Youth Policy of the Voronezh Region, as well as in the decisions of the Council of Rectors of the Voronezh Region and the Association of Higher Education Institutions of the Central Black Earth Region.

The activities of the University staff were focused on promoting the high quality of education and research effectiveness, enhancing the University's competitiveness, encouraging patriotic education, supporting and developing creative initiative and effort of all the categories of university students and staff, maintaining collaboration between universities and partnership with potential employers and the business communities, as well as with schools and secondary vocational education institutions.

Given the considerable negative impact of the economic crisis on the University staff, VSU's strategic development plan included a range of measures intended to prevent any signs of stagnation.

The University has been working on preserving, maintaining, and adopting the cutting-edge traditions of leading higher educational institutions of Russia.



In 2015, a major area of work at VSU was a focus on preparing and implementing a number of significant projects:

- The 70th anniversary of the victory in the Great Patriotic War.
- The Year of Literature in Russia.
- Voronezh as the Cultural Capital of CIS.

The University administration, the deans' offices, and the heads of all structural subdivisions collaborated with public organisations in order to ensure a clear vision and consideration for the abovementioned and other factors. That would have a positive influence on the "climate" among the University staff members, promoting a commitment-minded and responsible attitude among all categories of students and employees, and making use of the existing best practices.

While dealing with the large and complex challenges VSU faced in 2015, the primary focus was, and will continue to be, on the people, which is intended to guarantee the success of the University's activities in the future.

## **VSU'S ACHIEVEMENTS IN 2015**

The work of the VSU staff in 2015 reasserted and consolidated its position of leadership in the academic community of the Voronezh Region, and its rightful place in the national system of higher education.

VSU entered the top 100 best Russian universities in the Academic Ranking – European Standard (ARES), as well as the worldwide research University Ranking by Academic Performance (URAP).

The University also demonstrated strong performance in the Fourth monitoring of the universities' efficiency conducted by the Ministry of Education and Science of the Russian Federation (all Key Performance Indicators met).

The University passed the national academic accreditation successfully. During the year, the VSU strategic development plan was implemented, exceeding a number of essential target indicators.

Overcoming the existing financial challenges, the University managed to maintain financial stability, thus avoiding the painful layoff of academic and research staff or a surge in tuition costs. We were able to increase staff salaries and establish a multi-channel system of scholarships for the best students.

VSU research was allocated over 363 million roubles of funds (even considering the sequestration). Junior scholars from VSU won a contest of annual innovative projects held between Voronezh universities. VSU was announced to be the leading innovative university of the Voronezh Region in 2015.



In the sphere of innovations, the University has been continuing its successful programme of collaboration with the Central Federal District's companies, including some hi-tech production projects, carrying out research for the benefit of the defence industry and the economic development of the region.

There was an increase in the number of works published by academic staff, graduate, and undergraduate students. All the series of the *Vestnik Voronezhskogo Gosudarstvennogo Universiteta* (Proceeding of Voronezh State University) journal were included in the list of referenced scholarly journals recommended by the State Commission for Academic Degrees and Titles.

The University opened a new comfortable dormitory that meets all modern requirements, as well as a training swimming pool, and a concert hall seating 630 people underwent in-depth modernisation.

An academic training base is being constructed in the Maikop Region of Adygea for organizing internships for students majoring in Geology, Ecology, and Biology.

The University has been developing international contacts in all areas and maintaining contacts with VSU graduates globally.

VSU's international activities in 2015 were praised by our foreign partners and ambassadors of a number of countries.

In the reporting year, the University achieved its target figures in student admissions (for bachelor's, master's, and postgraduate programs) and young graduate specialists. We would like to note that there was an increase in our graduate employability, as well as most favourable reviews of their performance from the employers.

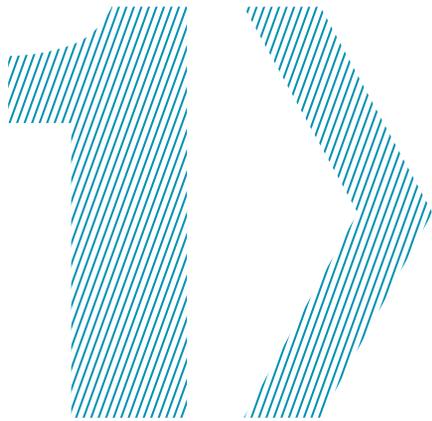
VSU has been ensuring the successful implementation of a student social development programme. The students' initiative and efforts have been increasing, in addition to the growth of the level of student activists' qualifications and the development of students' social and volunteering teams.

*A Large University for a Large City* project was developed, as well as a unique art project *Theatre of Equals*, which was created with VSU's active participation, and performs an important cultural and social function. The latter has even been praised by audiences outside the Voronezh Region.

In 2015, VSU students won a number of significant prizes in a variety of scientific, social, art, and sport events.



This section provides a general overview of the University's achievements in 2015. They result from the University consistently building on the work of the past years, while at the same time developing and expanding it in line with the imperatives of our time. More detailed information about VSU's activities may be found in the corresponding sections of the Report.



## **VSU OBJECTIVES FOR 2016**

In 2016, the University administration and VSU's academic and teaching staff are going to continue their consistent and purpose-driven efforts aimed at countering negative recessionary tendencies in order to keep our University's "development roadmap" defined by the Strategic Plan and programmes.

The activities of all the heads, and the University staff as a whole, are to be focused on promoting the high quality of education and the effectiveness of research (with an emphasis on its innovative component), maintaining collaboration and partnership with various organizations (enterprises, companies, business communities, universities, schools, and international partners), and implementing the mission of the University as an educational, social, and cultural centre of the region.

The Voronezh regional structure of higher education comprises three major scientific and educational clusters: classical, engineering, and agricultural universities. The former is centred on our University and involves the other universities of the region. With the second and third clusters, our task is to determine the specific directions and forms of participation and partnership. Another priority is the need for a socially responsible approach to resolving integration issues in the academic environment.

A task of great strategic significance is converting the Faculty of Biology and Soil Sciences into the Faculty of Biomedical Sciences and organizing student admissions for the licensed programmes in Medical Cybernetics, Medical Biophysics, and Medical Biochemistry in the summer of 2016. This work will enable us to meet the critical demand for specialists in high-technology areas of medicine in our own and neighbouring regions.

Like in the past year, we are going to address the complex tasks of providing social support for long-service VSU employees, lecturers, staff, postgraduate, and undergraduate students, as well as ensuring favourable conditions for their work and rest. The programmes developed in order to achieve these goals require constant attention, significant organizational efforts and control.

A major line of work for the University is establishing new academic double degree programmes in cooperation with leading international partner universities, opening Russian Language Centres in Europe and in China, promoting the "Russian Virtual Classroom" online platform in Spanish-speaking countries, and expanding VSU's participation in EU projects (Tempus, Erasmus+, DAAD, etc.).



The University administration will work on developing incentive schemes for lecturers, staff members, and students; awarding specific achievements; enhancing classroom and workplace discipline; and maintaining high standards for all categories of students and staff.

It is essential that an understanding of the University's tasks and willingness to employ a proactive and inventive approach to their achievement should become a priority for each-and-every one of us, inspiring us to excel and use our initiative and creative skills.

For each of the Vice Rectors, an important indicator of efficiency must be the successful implementation of the projects they supervise, thus using a project-based management target approach in practice.

In 2016, work will begin on preparing for the University's 100th anniversary. We have already made plans of what has to be done in the nearest future and what must get off the starting blocks. I am convinced that each of us will do our part in working for this common cause.



The abovementioned tasks for VSU in 2016 and methods of dealing with them are explained in more detail in the corresponding sections of the Report. Even considering all the complications and challenges, the University staff has all the prerequisites for putting all these ideas into practice: professional integrity and professionalism, established traditions, and accumulated experience, as well as a desire to work in the interests of the university, the region, and the country as a whole.





# UNIVERSITY GOVERNANCE





# UNIVERSITY GOVERNANCE

## 2.1. BOARD OF TRUSTEES: STRUCTURE, LIST OF KEY ISSUES

The Board of Trustees of FSFEI HE *Voronezh State University* (hereinafter referred to as the VSU Board of Trustees) was created based on the order by the VSU Academic Council dated 28 September 2012 in accordance with the Charter of FSFEI HE VSU (Sections 4.17, 4.20–4.32), and is one of VSU’s management bodies.

The activities of the VSU Board of Trustees are subject to the Charter of the Board of Trustees of Voronezh State University and the Rules and Procedures of the Board of Trustees of Voronezh State University. The VSU Board of Trustees consists of 27 people.

Chairman  
of the Board of Trustees – **Alexander Sokolov**

Deputy Chairs  
of the Board of Trustees– **Elena Soboleva and Evgeny Yurchenko**

Secretary  
of the Board of Trustees – **Tatiana Davydenko**

### MEMBERS OF THE VSU BOARD OF TRUSTEES

1. **Azret Bekkiev**, Director General of AO *Concern Sozvezdie*.
2. **Vladimir Bubnov**, Director General of OOO *Kombinat Stroitelnykh Detaley*.
3. **Anton Ganzha**, Regional Office Manager of PAO *Avangard* Joint Stock Commercial Bank.
4. **Yury Goncharov**, President of the Voronezh Regional Chamber of Commerce and Industry.
5. **Tatiana Davydenko**, Vice Rector for Innovations and Technology Commercialization of FSFEI HE VSU.



6. **Dmitry Endovitskiy**, Rector of FSFEI HE VSU.
7. **Viktor Yenin**, Director General of UK IP *Perspektiva*.
8. **Valentin Ievlev**, Full Member of the Russian Academy of Sciences, DSc in Physics and Mathematics, Professor, Head of the Department of Materials Science and the Industry of Nanosystems of the Faculty of Chemistry of FSFEI HE VSU.
9. **Alexey Kamyshev**, Executive Director of AO *Chemical Automatics Design Bureau*.
10. **Dmitriy Lapygin**, Director of Economic Affairs of OOO *RET*.
11. **Gennadiy Makin**, Vice-Governor of the Voronezh Region – Secretary General of the Governor and Voronezh Regional Government.
12. **Mikhail Moskaltsov**, Head of the main Voronezh regional office of the Central Black Earth Branch of PAO Sberbank.
13. **Mikhail Nosyrev**, attorney, President of ZAO *Spartak Cinema*.
14. **Alexey Ponomarev**, Vice President for Strategy & Industrial Cooperation of the Skolkovo Institute of Science and Technology (Moscow).
15. **Vladimir Popov**, First Deputy Chairman of the Government of the Voronezh Region.
16. **Igor Risin**, DSc in Economics, Professor, Associate member of the Russian Academy of Natural Sciences, Head of the Department of Regional Economics and Territorial Administration of FSFEI HE VSU.
17. **Vladimir Salmin**, Chairman of the Central Black Earth Branch of PAO *Sberbank*.
18. **Elena Soboleva**, Director of Educational Projects and Programmes of the Fund for Infrastructure and Educational Programmes (RUSNANO, Moscow).
19. **Alexander Sokolov**, Vice President for the Social Policy of PAO *Novolipetsk Steel* (NLMK).
20. **Natalia Tretyak**, First Deputy Minister of Education and Science of the Russian Federation (Moscow).
21. **Heinze Klaus-Dieter**, Head of the chemical/industrial technopark (Dow Olefinverbund GmbH Leiter ValuePark, Germany).
22. **Andrey Hitskov**, Deputy Head of the branch of VoRU PAO *MInBank* (public joint-stock company *Moscow Industrial Bank*).
23. **Valeriy Chernikov**, Board Chairman of AO *Insurance Business Group*.
24. **Gennadiy Chernushkin**, Founder of *Angstrom* Group.
25. **Elena Chupandina**, First Vice Rector – Vice Rector for Academic Affairs of FSFEI HE VSU.
26. **Anatoliy Shmygalev**, Deputy of the VI Voronezh Regional Duma.
27. **Evgeniy Yurchenko**, Chairman of A.S. Popov Investment Fund (Moscow).



The Board of Trustees includes four Commissions: the Commission for the Development of Research and Innovation, the Commission for the Implementation of the Academic Policy; the Commission for Expanding VSU's Physical Infrastructure; the Commission for the Social Support for VSU's Students and Staff, as well as a temporary working group formulating proposals on tax concessions for benefactors.

In 2015, there were two scheduled sessions of the Board of Trustees.

The sessions of the Board of Trustees focused on current issues concerning the University's development:

- The project of the VSU Information Technologies Centre.
- The public and professional accreditation of higher education programmes performed by the Chamber of Commerce and Industry of the Voronezh Region as a means of independent assessment of whether the quality and level of the specialists' training meet employers' demands.
- The development of the higher education system in the Voronezh Region and the rationale for establishing three scientific and educational clusters – engineering, classic, and agricultural.
- The analysis of VSU graduates' employment, including the enterprises of the Voronezh Region.
- The application of funds obtained as revenue from the discretionary management of the assets of the VSU Endowment Managing Fund.
- Presenting innovative projects by VSU scholars, etc.

#### **KEY RESULTS OF THE ACTIVITIES OF THE VSU BOARD OF TRUSTEES IN 2015:**

1. The project of the VSU Information Technologies Centre was approved.
2. The members of the Board of Trustees took part in the monitoring of employers' satisfaction in relation to the quality of the students' professional training.
3. The members of the Board of Trustees participated as jury members for the VSU innovative project contest for young scholars.
4. A member of the VSU Board of Trustees, Klaus-Dieter Heinze, served as the international expert for the Competitiveness Enhancement Program for Voronezh State University as a world leading centre of research and education.
5. The Board endorsed the decision to allocate revenue from the discretionary management of the assets of the VSU Endowment Managing Fund for the social support for long-serving VSU employees.
6. There were a number of proposals aimed at the commercialization of the results of innovation projects developed by university scholars.

Information about the activities of the VSU Board of Trustees may be found on the website of FSFEI HE Voronezh State University: [www.vsu.ru](http://www.vsu.ru)



## 2.2. THE ACADEMIC COUNCIL: STRUCTURE, LIST OF KEY ISSUES

### STRUCTURE OF THE ACADEMIC COUNCIL OF VORONEZH STATE UNIVERSITY IN 2015

1. **DMITRY ENDOVITSKIY,**  
Rector
2. **ELENA CHUPANDINA,**  
First Vice Rector – Vice Rector for Academic Affairs
3. **VASILY ANOKHIN,**  
Vice Rector for Facilities and Capital Development
4. **OLEG BELENOV,**  
Vice Rector for Economics and International Cooperation
5. **YURY BUBNOV,**  
Vice Rector for Strategic Administrative Management
6. **OLEG GRISHAEV,**  
Vice Rector for Student Affairs and Social Development
7. **TATIANA DAVYDENKO,**  
Vice Rector for Innovations and Technology Commercialization
8. **VASILY POPOV,**  
Vice Rector for Research and Informatisation
9. **EDUARD ALGAZINOV,**  
Dean of the Faculty of Computer Sciences
10. **ALEXANDER ALBEKOV,**  
Associate Professor of the Department of Mineralogy, Petrology,  
and Geochemistry of the Faculty of Geology
11. **VALERIY ARTYUKHOV,**  
Dean of the Faculty of Biology and Soil Sciences
12. **YURIY ASTAFIEV,**  
Head of the Department of Criminal Procedure of the Faculty of Law
13. **ALEXANDER BAEV,**  
Dean of the Faculty of Mathematics
14. **ALEKSANDR BELANOV,**  
Head of the Department of Physical Education and Sports
15. **OLGA BERDNIKOVA,**  
Dean of the Faculty of Philology
16. **ANATOLIY BOBRESHOV,**  
Dean of the Faculty of Physics



- 17. LYUDMILA VLADIMIROVA,**  
Chairman of the Trade Union Committee of VSU
- 18. KARINA GAIDAR,**  
Head of the Department of General and Social Psychology,  
Vice Dean of the Faculty of Philosophy and Psychology
- 19. SERGEY GAPONOV,**  
Head of the Department of Zoology and Parasitology of the Faculty  
of Biology and Soil Sciences
- 20. VLADIMIR GLAZIEV,**  
Dean of the Faculty of History
- 21. ALEXANDRA GLUKHOVA,**  
Head of the Department of Sociology and Politology of the Faculty of History
- 22. YURIY GORDEEV,**  
Head of the Department of Theory and Practice of Journalism  
of the Faculty of Journalism
- 23. EVELINA DOMASHEVSKAYA,**  
Head of the Department of Solid-State Physics and Nanostructures  
of the Faculty of Physics
- 24. VALENTIN IEVLEV,**  
Head of the Department of Materials Science and the Industry  
of Nanosystems of the Faculty of Chemistry
- 25. PAVEL KANAPUKHIN,**  
Dean of the Faculty of Economics
- 26. MAKSIM KIRCHANOV,**  
Vice Dean of the Faculty of International Relations
- 27. LARISA KOROBEINIKOVA,**  
Head of the Department of Economic Analysis and Audit  
of the Faculty of Economics
- 28. VLADIMIR KOSTIN,**  
Head of the Department of Mathematical Modelling  
of the Faculty of Mathematics
- 29. NIKOLAY KURALEVIN,**  
Head of the Department of Safety and Basic Medical Training
- 30. SEMYON KUROLAP,**  
Head of the Department of Geoecology and Environmental Monitoring  
of the Faculty of Geography, Geoecology, and Tourism
- 31. TATIANA LEDENEVA,**  
Head of the Department of Computational Mathematics  
and Applied Information Technologies of the Faculty  
of Applied Mathematics, Informatics, and Mechanics
- 32. MIKHAIL MATVEEV,**  
Head of the Department of Information Technologies in Management  
of the Faculty of Computer Sciences
- 33. ARKADIY MINAKOV,**  
Director of the Regional Scientific Library of Voronezh State University



- 34. VIKTOR NENAKHOV,**  
Dean of the Faculty of Geology
- 35. TAMARA NIKONOVA,**  
Head of the Department of Russian Literature of XX–XXI Centuries,  
the Theory of Literature and Folklore of the Faculty of Philology
- 36. ELENA NOSYREVA,**  
Head of the Department of Civil Law and Procedure of the Faculty of Law
- 37. OLEG OVCHINNIKOV,**  
Head of the Department of Optics and Spectroscopy of the Faculty of Physics
- 38. MIKHAIL PASHCHENKO,**  
Director of VSU’s Borisoglebsk Branch
- 39. LYDIA RADINA,**  
Deputy Director of the International Education Institute
- 40. VLADIMIR RODIONOV,**  
Director of the International Education Institute
- 41. YURIY STARILOV,**  
Dean of the Faculty of Law
- 42. NATALIA SAPOZHNIKOVA,**  
Head of the Department of Accountancy of the Faculty of Economics
- 43. VLADIMIR SELEMENEV,**  
Head of the Department of Analytical Chemistry of the Faculty of Chemistry
- 44. VIKTOR SEMYONOV,**  
Dean of the Faculty of Chemistry
- 45. NIKOLAY SKOLZNEV,**  
Director of the Galichya Gora nature reserve
- 46. ALEKSEY SLIVKIN,**  
Dean of the Faculty of Pharmaceutics
- 47. ANDREY STARTSEV,**  
Chairman of the trade union organization of VSU students
- 48. VLADIMIR TITOV,**  
Dean of the Faculty of Romance and Germanic Philology
- 49. VLADIMIR TULUPOV,**  
Dean of the Faculty of Journalism
- 50. NATALIA TURBINA,**  
Acting Academic Secretary, Assistant Vice Rector
- 51. GENNADIY USACHEV,**  
Head of the Finance and Economics Administration
- 52. VLADIMIR FEDOTOV,**  
Dean of the Faculty of Geography, Geoecology, and Tourism
- 53. IGOR CHASTUKHIN,**  
Chief accountant
- 54. NIKOLAY CHERNYSHOV,**  
Head of the Department of Mineralogy, Petrology, and Geochemistry  
of the Faculty of Geology



- 55. ALEXANDER SHASHKIN,**  
Dean of the Faculty of Applied Mathematics, Informatics, and Mechanics
- 56. ALEXANDER SHCHERBAKOV,**  
Dean of Faculty of Military Education
- 57. VLADIMIR SHCHERBAKOV,**  
Head of the Department of Clinical Pharmacology of the Faculty of Pharmaceutics
- 58. NATALIA YURINA,**  
Director of VSU's Stary Oskol Branch
- 59. EKATERINA AKIMOVA,**  
4th year student of the Faculty of Computer Sciences
- 60. SERGEY BURAVLEV,**  
2nd year Master's degree student of the Faculty of Mathematics
- 61. ELENA VOLKOVA,**  
1st year Master's degree student of the Faculty of Economics
- 62. TATIANA KORNEEVA,**  
4th year student of the Faculty of Romance and Germanic Philology
- 63. ELENA LYAPINA,**  
2nd year postgraduate student of the Faculty of Mathematics
- 64. NIKOLAY SEREDA,**  
Vice Head of the Student Affairs and Social Development Department
- 65. JULIA SMOLYANINOVA,**  
3rd year postgraduate student of the Faculty of Law
- 66. NIKITA TITARENKO,**  
4th year student of the Faculty of Applied Mathematics, Informatics, and Mechanics
- 67. IRINA TRISHINA,**  
1st year postgraduate student of the Faculty of Applied Mathematics, Informatics, and Mechanics
- 68. SERGEY KHAUSTOV,**  
2nd year Master's degree student of the Faculty of Applied Mathematics, Informatics, and Mechanics



## LIST OF KEY ISSUES CONSIDERED BY THE ACADEMIC COUNCIL OF VORONEZH STATE UNIVERSITY IN 2015

### January

1. The strategic development plan for the Faculty of Biology and Soil Sciences.
2. Report on the results of the University's research performance in 2014.
3. The University's innovation activities in 2014 and the results of the commercialisation of R&D projects.

### February

1. Report on the financial and business operations of the University in 2014.
2. Post-graduate vocational education programs at the University.

### March

1. Report on the implementation of the University Strategic Development Programme.
2. Social partnership at the University.
3. Approving the admission rules for the main academic programmes offered by VSU.
4. Approving the tuition fees for the main academic programmes of higher education and secondary vocational education.

### April

1. Rector's report on the results of the University's performance in 2014.
2. The strategic development plan for the Faculty of Geology.

### May

1. The strategic development plan for the Faculty of Geography, Geoecology, and Tourism.
2. Approving the University's new heraldry.

### June

1. The strategic development plan for the Faculty of Physics.
2. The implementation of the University's property assets modernisation plan in 2014–2015.

### September

1. The results of 2015 admissions of first-year students and the objectives for the 2016 admission campaign.
2. Approving the admission rules for the main academic programmes offered by VSU in 2016.
3. Cold weather adaptation of the buildings and facilities.

### October

1. Report on the results of the performance of the University's branches in Borisoglebsk, Stary Oskol, and Liski, in 2014/15.
2. Report on the activities of student teams.

### November

1. The strategic development plan for the Faculty of Pharmaceutics.
2. Approving the plan for improving the system of budgeting at the University.

### December

1. VSU internationalization: the year in review, upcoming trends.
2. Report on the performance of the International Education Institute.



## 2.3. RECTOR'S OFFICE

### Rector

#### **Dmitry ENDOVITSKIY**

DSc in Economics, Professor. Honoured Worker of Higher Vocational Education of the Russian Federation. The author of over 340 research papers and works.

Telephone: +7 (473) 220-75-22

E-mail: rector@vsu.ru

### First Vice Rector – Vice Rector for Academic Affairs

#### **Elena CHUPANDINA**

DSc in Pharmaceutical Sciences, Head of the Department of Economics and Management in Pharmaceutics and Pharmacognosy. The author of over 190 research papers and works.

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### Vice Rector for Research and Informatisation

#### **Vasily POPOV**

DSc in Biology, Professor, Head of the Department of Genetics, Cytology, and Bioengineering. The author of over 270 research papers and works. Advisor for 10 PhD dissertations.

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### Vice Rector for Innovations and Technology Commercialization

#### **Tatiana DAVYDENKO**

DSc in Pedagogy, Professor. The author of over 120 research papers. Advisor for 18 PhD dissertations and 1 doctoral dissertation.

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### **Vice Rector for Economics and International Cooperation**

#### **Oleg BELENOV**

DSc in Economics, Professor, Dean of the Faculty of International Relations The author of over 180 research papers. Advisor for 10 PhD dissertations.

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**E-mail: belenov@vsu.ru**

### **Vice Rector for Strategic Administrative Management**

#### **Yuriy BUBNOV**

DSc in Philosophy, Professor, Head of the Department of History of Philosophy of the Faculty of Philosophy and Psychology. The author of 143 research papers. Advisor for eight PhD dissertations.

**Telephone: +7 (473) 220-77-73**

**E-mail: bubnov@vsu.ru**

### **Vice Rector for Student Affairs and Social Development**

#### **Oleg GRISHAEV**

PhD in History, Associate Professor The author of over 90 research papers and works.

**Telephone: +7 (473) 239-06-86**

**E-mail: grishaev@vsu.ru**

### **Vice Rector for Facilities and Capital Development**

#### **VASILY ANOKHIN**

Started working at VSU in 2013.

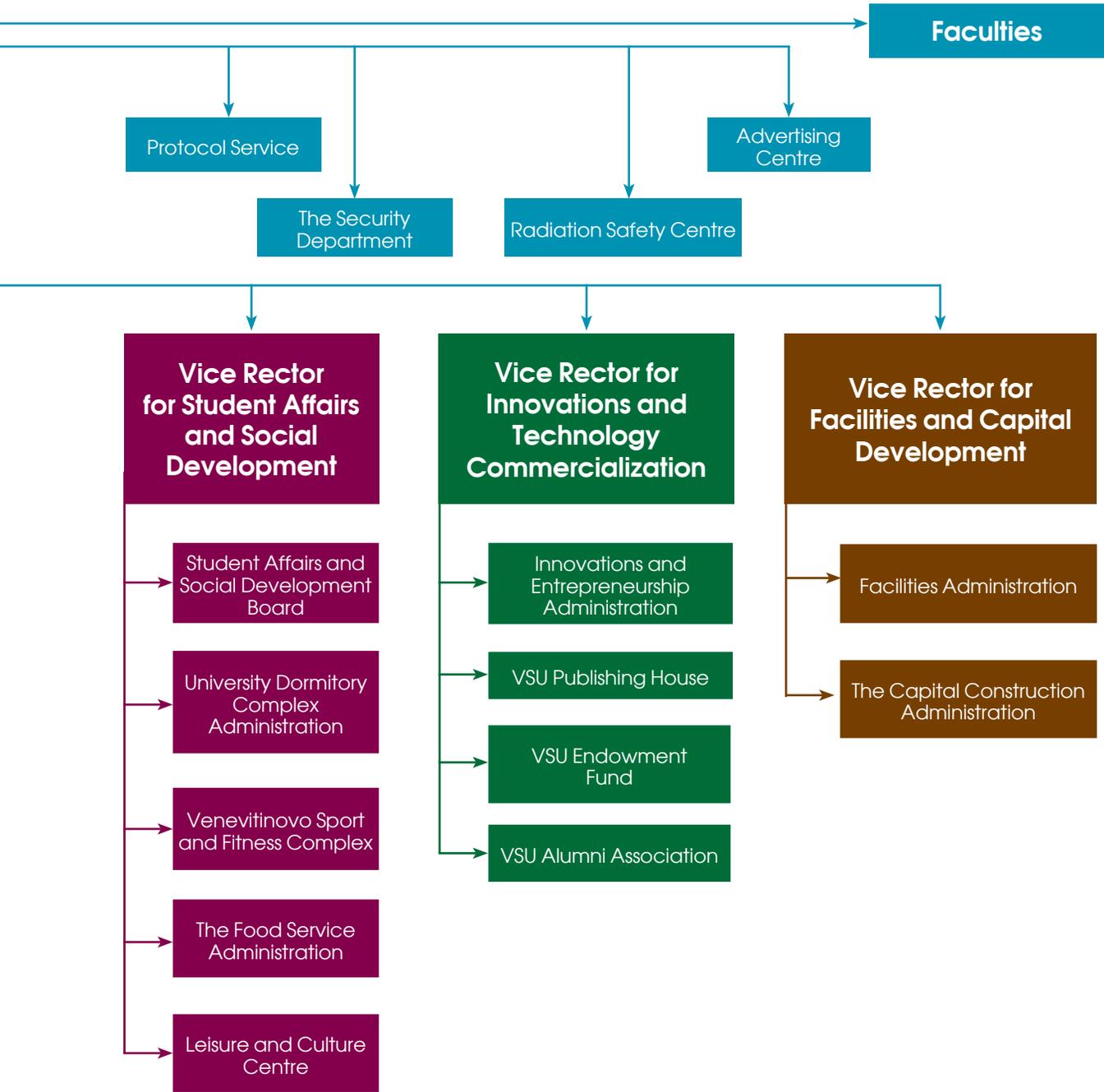
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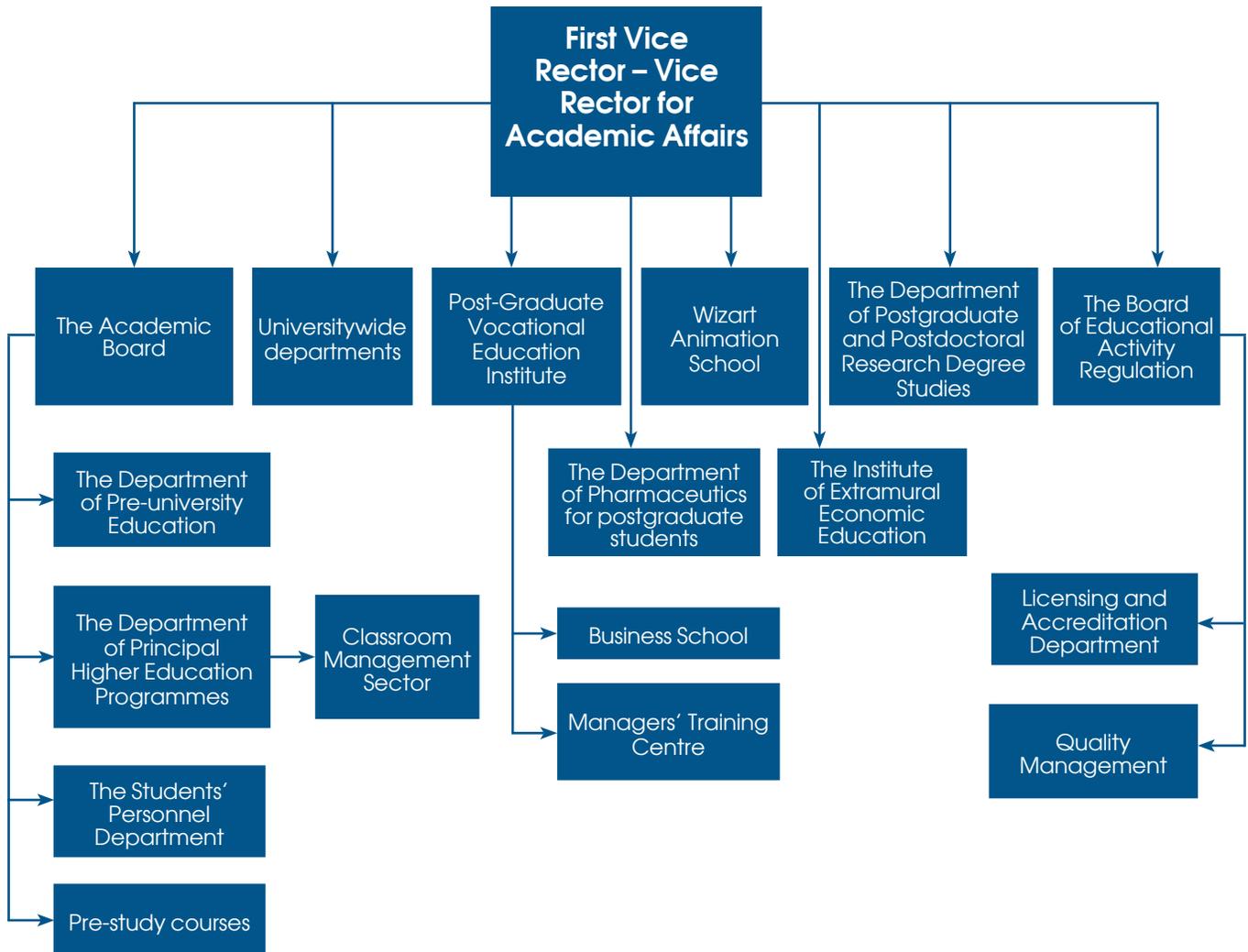
## 2.4. THE STRUCTURE OF VORONEZH STATE UNIVERSITY



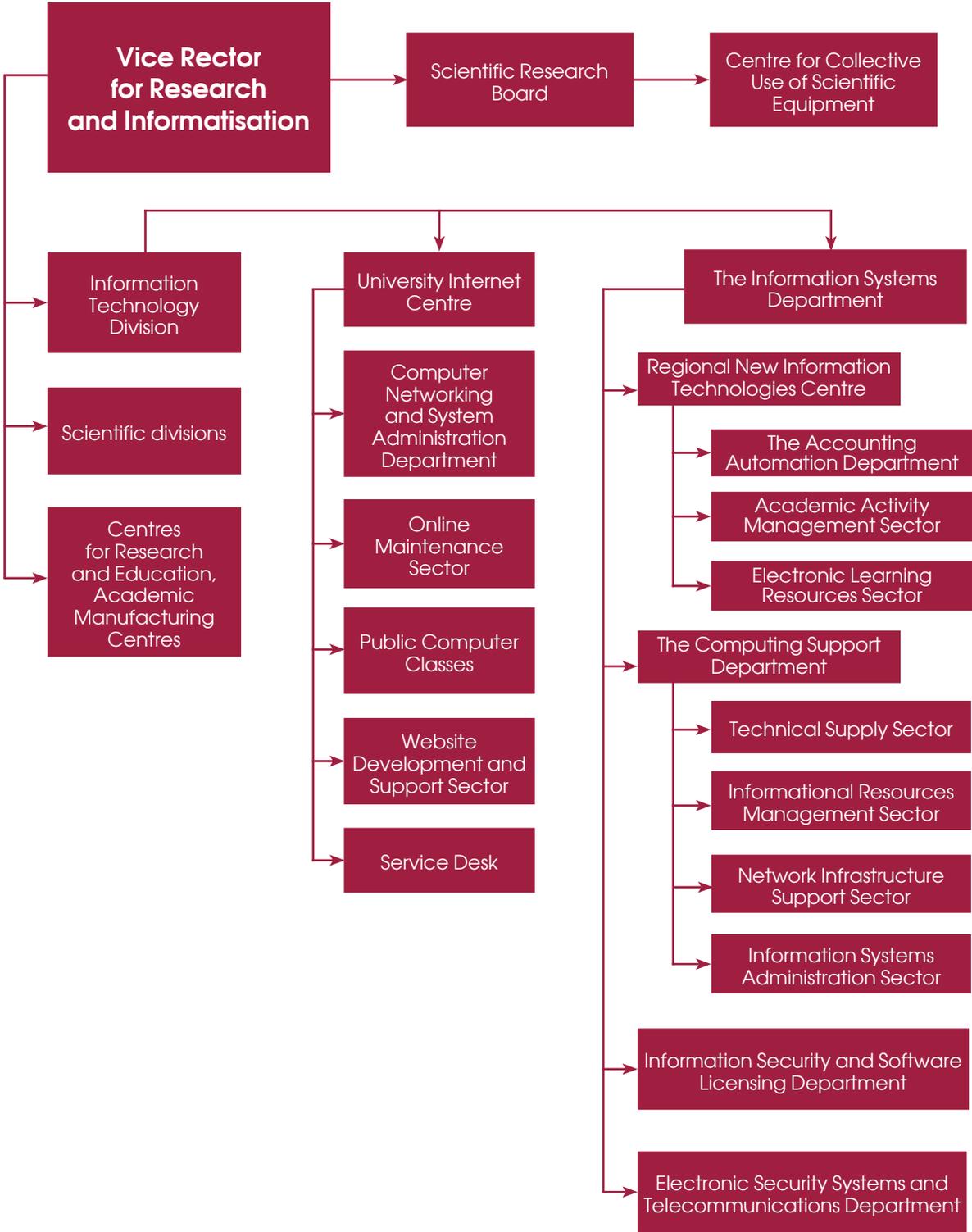




## 2.5. MANAGEMENT STRUCTURE OF THE FIRST VICE RECTOR – VICE RECTOR FOR ACADEMIC AFFAIRS

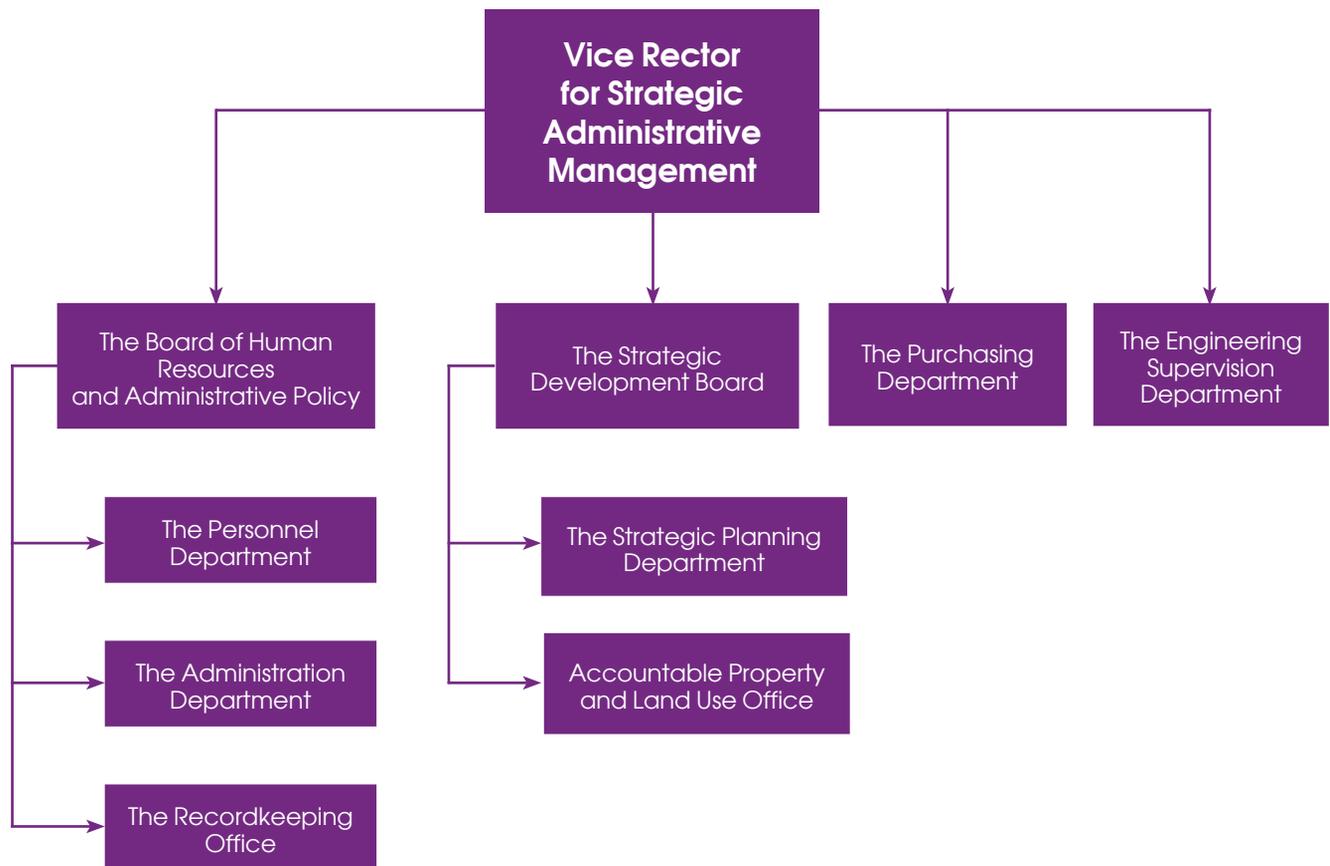


## 2.6. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR RESEARCH AND INFORMATISATION



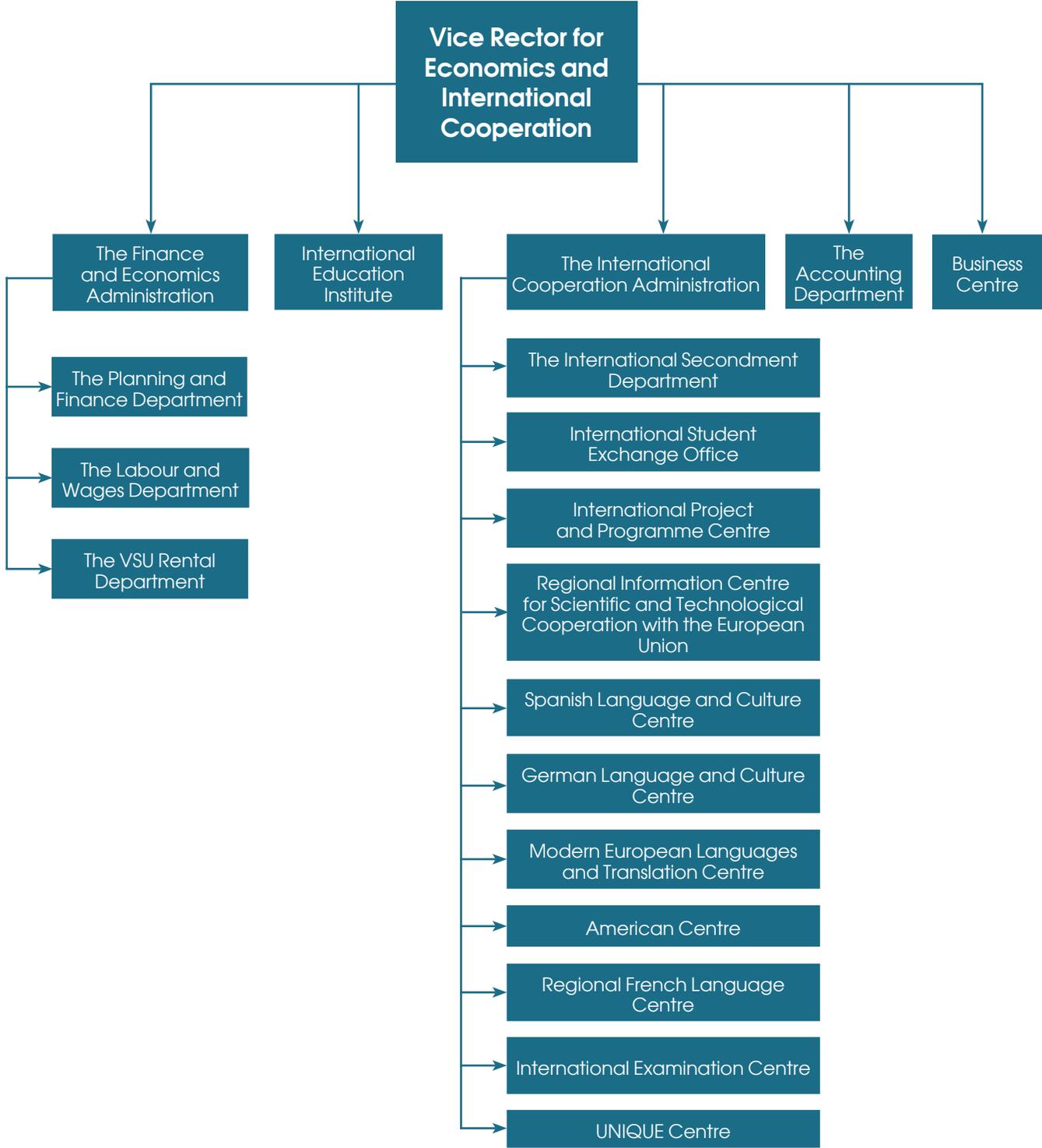


## 2.7. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR STRATEGIC ADMINISTRATIVE MANAGEMENT



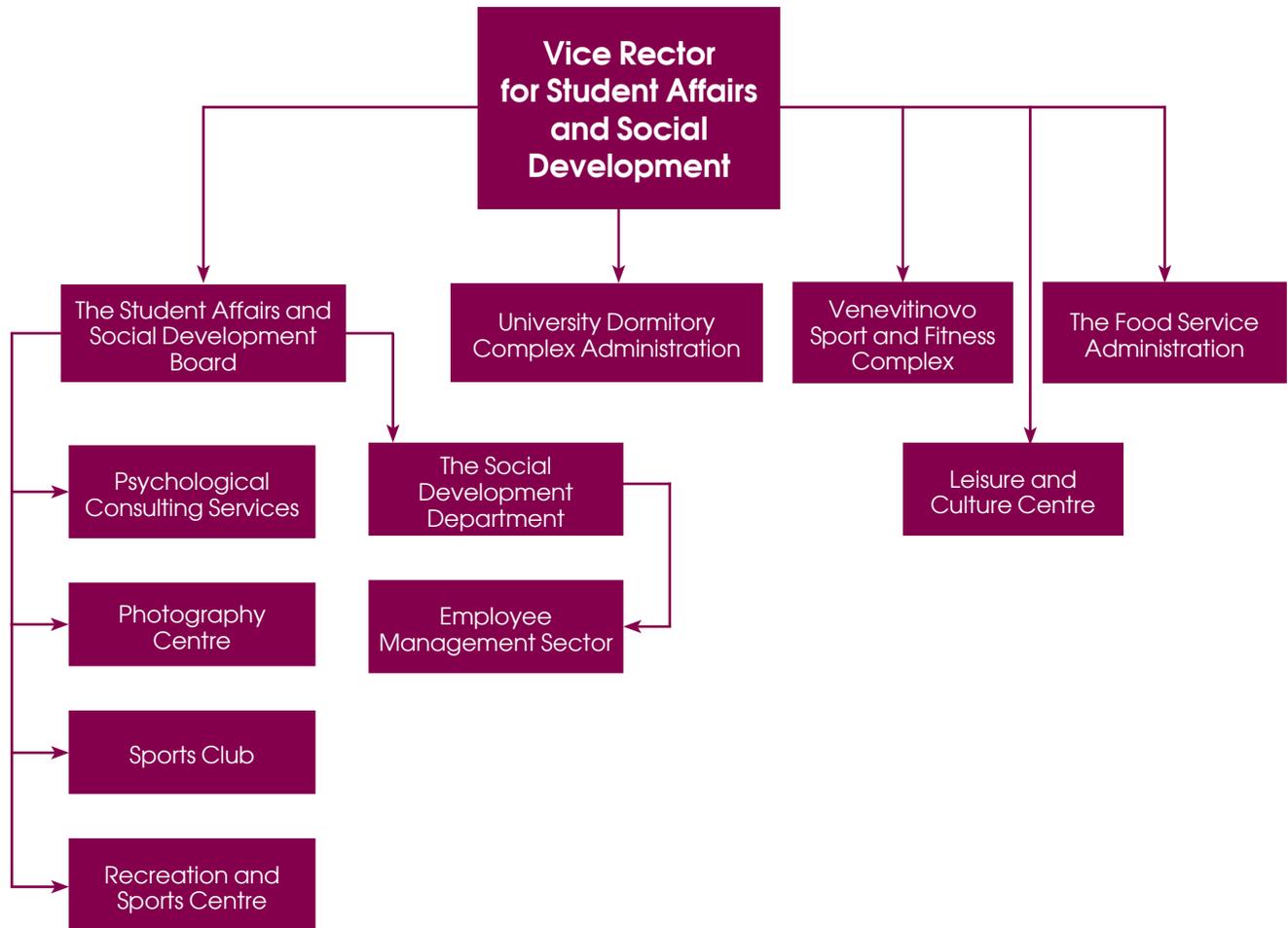


## 2.8. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR ECONOMIC DEVELOPMENT AND INTERNATIONAL COOPERATION



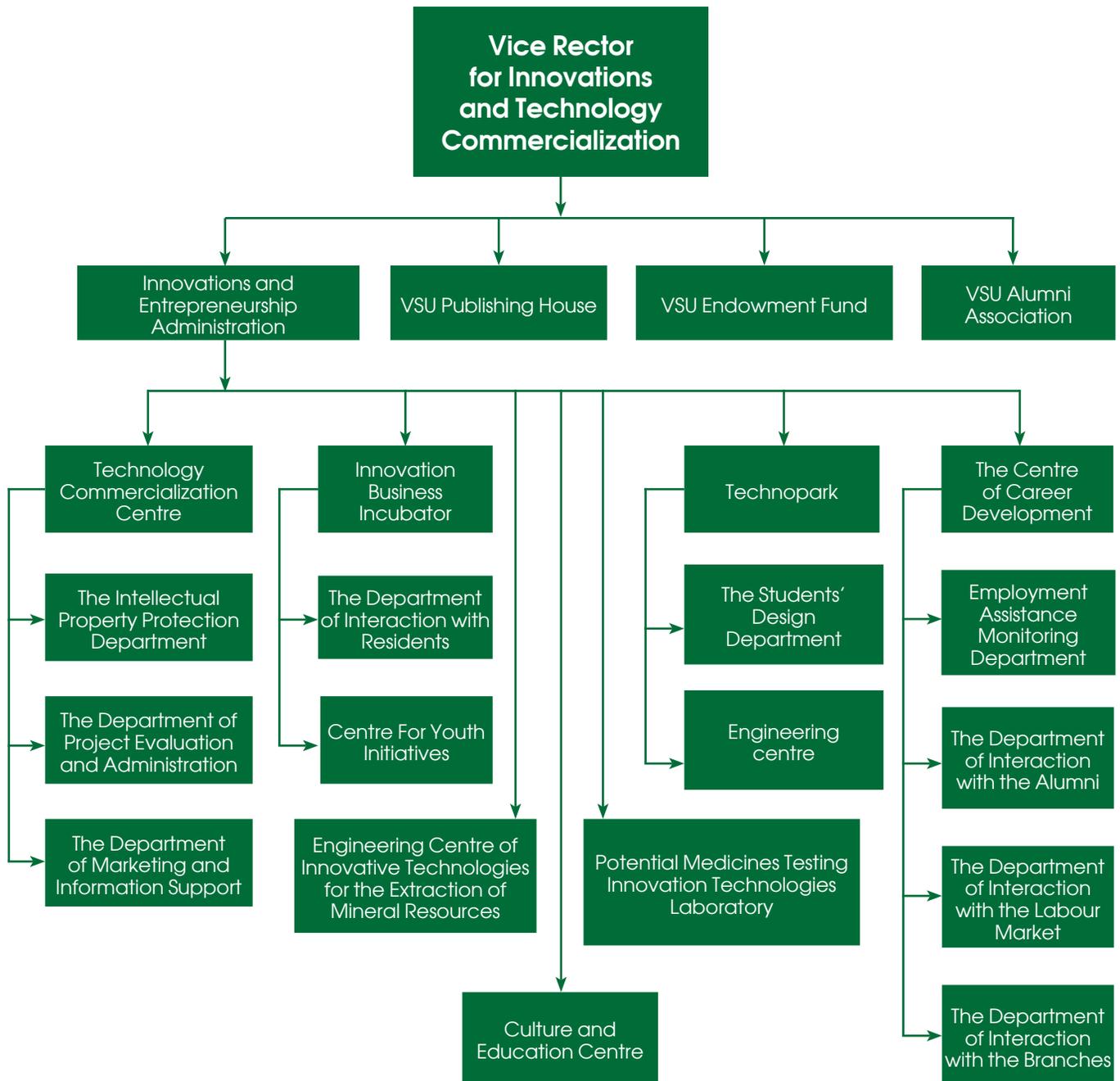


## 2.9. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR STUDENT AFFAIRS AND SOCIAL DEVELOPMENT BOARD



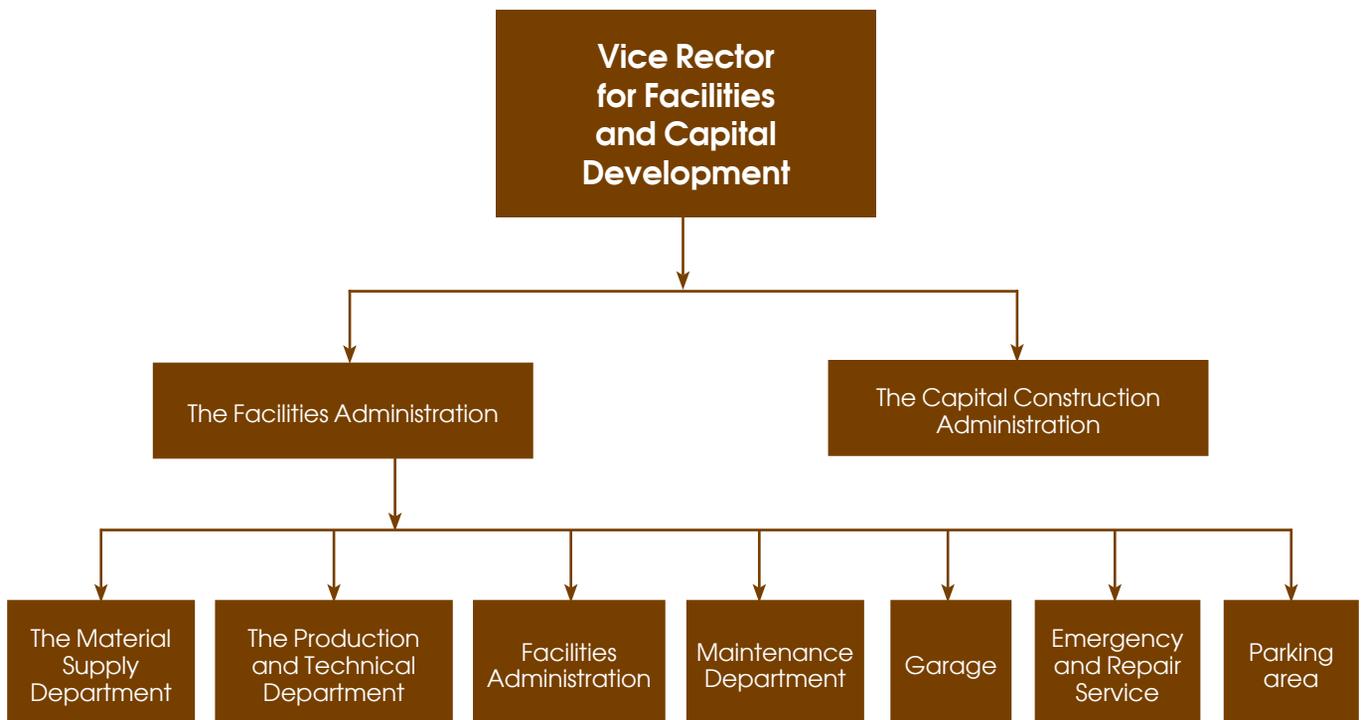


## 2.10. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR INNOVATIONS AND TECHNOLOGY COMMERCIALIZATION





## 2.11. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR FACILITIES AND CAPITAL DEVELOPMENT





## 2.12. FACULTIES AND INSTITUTES

### THE FACULTY OF BIOLOGY AND SOIL SCIENCES

Dean **VALERIY ARTYUKHOV**

Telephone: +7 (473) 220-88-52 E-mail: artyukhov@bio.vsu.ru

### THE FACULTY OF GEOLOGY

Dean **VIKTOR NENAKHOV**

Telephone: +7 (473) 220-89-89 E-mail: nenakhov@geol.vsu.ru

### THE FACULTY OF HISTORY

Dean **VLADIMIR GLAZIEV**

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### THE FACULTY OF MATHEMATICS

Dean **ALEXANDER BAEV**

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### THE FACULTY OF MILITARY EDUCATION

Dean **ALEXANDER SHCHERBAKOV**

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### THE FACULTY OF GEOGRAPHY, GEOECOLOGY AND TOURISM

Dean **VLADIMIR FEDOTOV**

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### THE FACULTY OF JOURNALISM

Dean **VLADIMIR TULUPOV**

Telephone: +7 (473) 274-52-71 E-mail: vlvtul@mail.ru

### THE FACULTY OF COMPUTER SCIENCES

Dean **EDUARD ALGAZINOV**

Telephone: +7 (473) 220-84-11 E-mail: algazinov@cs.vsu.ru

### THE FACULTY OF APPLIED MATHEMATICS, INFORMATICS, AND MECHANICS

Dean **ALEXANDER SHASHKIN**

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### THE FACULTY OF ROMANCE AND GERMANIC PHILOLOGY

Dean **VLADIMIR TITOV**

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### **THE FACULTY OF PHILOSOPHY AND PSYCHOLOGY**

Dean **YURIY BUBNOV**

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### **THE FACULTY OF PHARMACEUTICS**

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### **THE FACULTY OF PHYSICS**

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### **THE FACULTY OF PHILOLOGY**

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### **THE FACULTY OF ECONOMICS**

Dean **PAVEL KANAPUKHIN**

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### **THE FACULTY OF LAW**

Dean **YURIY STARILOV**

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### **THE FACULTY OF INTERNATIONAL RELATIONS**

Dean **OLEG BELENOV**

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### **THE INSTITUTE OF EXTRAMURAL ECONOMIC EDUCATION**

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### INTERNATIONAL EDUCATION INSTITUTE

Director **Vladimir Rodionov**  
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### POST-GRADUATE VOCATIONAL EDUCATION INSTITUTE

Director **NIKOLAY BATSUNOV**  
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### GEOLOGY RESEARCH INSTITUTE

Director **KONSTANTIN SAVKO**  
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### MATHEMATICS RESEARCH INSTITUTE

Director **VIKTOR ZVYAGIN**  
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### SOCIAL AND POLITICAL STUDIES INSTITUTE

Director **ALEKSANDRA GLUKHOVA**  
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### PHYSICS RESEARCH INSTITUTE

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### LISKI BRANCH

Director **ELENA YATSENKO**  
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### STARY OSKOL BRANCH

Director **NATALIA YURINA**  
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### BORISOGLEBSK BRANCH

Director **MIKHAIL PASHCHENKO**  
Telephone: +7 (473) 546-04-92 E-mail: paschenko@bsv.vsu.ru



# PROJECT ROADMAP

## for the 2015/2016 academic year



### First Vice Rector Elena CHUPANDINA

- Project 1.** Key Regional University (with Yuriy Bubnov).
- Project 2.** Developing the continuing education infrastructure (ongoing).
- Project 3.** Leader of the Year – Best Department Head, Best Professor, Best Associate Professor, Best Assistant (ongoing).
- Project 4.** Virtual educational environment (ongoing).
- Project 5.** Collaboration with the Higher School of Economics.



### Vice Rector Yuriy BUBNOV

- Project 1.** Faculty of Biomedical Sciences (with Elena Chupandina).
- Project 2.** The *Nickel* interuniversity training base for field educational and onsite practice (Adygea).
- Project 3.** Transition to the effective contract system (continued) (with Lyudmila Vladimirova).
- Project 4.** Total redevelopment of Voronezh State University Botanical Garden (continued).
- Project 5.** An educational laboratory facility “VSU Information Technologies Centre” (with Vasily Anokhin).



### Vice Rector Oleg GRISHAEV

- Project 1.** Student Leader.
- Project 2.** An entertainment centre at the University Hall.
- Project 3.** VSU as a centre for students’ sports.
- Project 4.** Accessible environment.
- Project 5.** VSU choir.
- Project 6.** Junior university handball team *VSU-junior* (with M. Frolov).
- Project 7.** Volunteer activities (continued).



### Vice Rector Vasily ANOKHIN

- Project 1.** Training swimming pool.

# OF VORONEZH STATE UNIVERSITY

## Project work coordination – VSU Rector Dmitry Endovitskiy



### Vice Rector Vasily POPOV

- Project 1.** Publishing works by VSU researchers in highly ranked journals, indexed in Web of Science and Scopus (continued).
- Project 2.** The University's analytical facilities used by the enterprises of the region.
- Project 3.** A Research Institute for Post-Genomic Studies.
- Project 4.** Electronic document management (continued).
- Project 5.** VSU Anatomy Museum.



### Vice Rector Tatiana DAVYDENKO

- Project 1.** Conducting research projects requested by Russian and international hi-tech organisations (continued).
- Project 2.** Engineering centre of innovative technologies for the extraction of mineral resources.
- Project 3.** Modernising the Innovations Portal and creating the VSU Innovative Projects Atlas.
- Project 4.** Building up VSU's international competitiveness.
- Project 5.** VSU Publishing House (continued).



### Vice Rector Oleg BELENOV

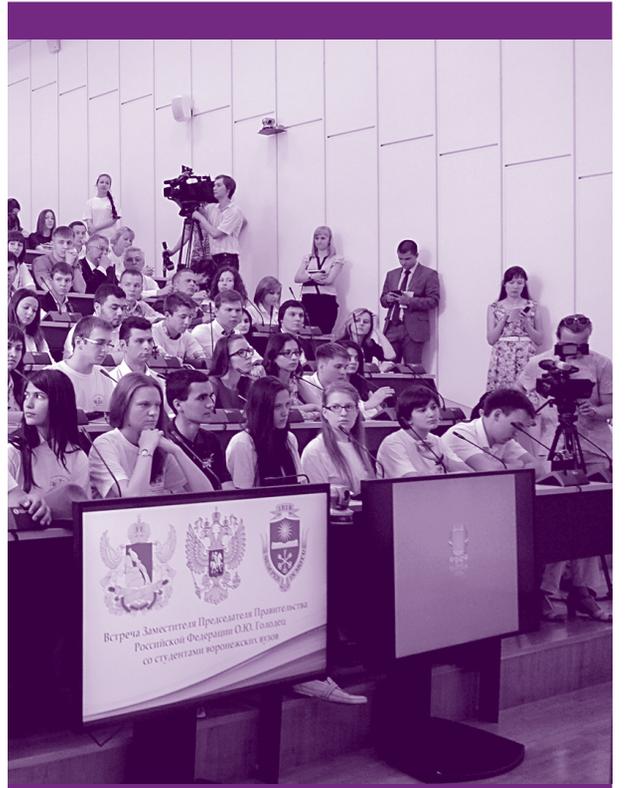
- Project 1.** Academic English: for VSU students and staff (continued).
- Project 2.** Developing an online platform "Russian as a Foreign Language" (with Vladimir Rodionov).
- Project 3.** University network for the countries of the Eurasian Economic Union.
- Project 4.** VSU Ambassadors.
- Project 5.** Joint distance educational programme in Russian Regional Studies.
- Project 6.** Developing educational technologies for double-degree master's programmes (continued).



### Head of the Information Technology Administration

**Alexey PROKHORCHENKO**

- Project 1.** VSU mobile.





# UNIVERSITY STRATEGIC DEVELOPMENT





# UNIVERSITY STRATEGIC DEVELOPMENT



**Yuriy Bubnov,**  
Vice Rector for Strategic  
Administrative Management

## 3.1. MISSION, VISION, STRATEGIC OBJECTIVES AND PROMISING PROJECTS OF THE UNIVERSITY

**The mission of the University** is to preserve and build upon the traditions of classical Russian education and research in all their diversity, thus meeting the regional and national needs for highly qualified specialists, innovative developments, and ideas.

**The University's Strategic Aim until 2020** is to achieve international recognition of the University as one of the leading traditional centres of education and research in Russia.

## PROJECT VISION

Modern classical university:

- Offering a wide range of academic programmes and research projects in the area of natural sciences and humanities.
- Demonstrating a world-class level of quality and competencies.
- Welcoming students from Russia and other countries, irrespective of their social status or any disabilities.
- Maintaining a high level of integration into the global processes of academic and scientific exchange.
- Creating favourable conditions for fulfilling the potential of the students, as well as the academic and research staff.



## STRATEGIC OBJECTIVES:

- Enhancing the University's competitiveness in all segments of the educational services market by means of starting new academic programmes and modernizing existing ones. Maintaining and continuously increasing the quality of education, expanding academic exchange programmes and partnerships with leading Russian and international universities.
- Attracting young and talented lecturers and researchers and encouraging them to opt for employment at the University through developing the growth motivation system and enhancing the facilities necessary for research and academic activities.
- Improving the University's recognition within the global academic community, in particular, increasing the total citation index of the publications in Web of Science and Scopus.
- Using applied projects and technology commercialization as a significant source of income.
- Developing social partnerships with the business community, cultural and social centres, and organizations of the region and the country as a whole.

The strategic tasks are managed with the help of the

## PROJECT MAP OF VORONEZH STATE UNIVERSITY

(URL: [http://www.vsu.ru/russian/docs/projects\\_map2015\\_2016.pdf](http://www.vsu.ru/russian/docs/projects_map2015_2016.pdf)).

A key element of the Project Vision and the Development Strategy of the University is a system of Key Performance Indicators (Table 3.1).

Table 3.1

## KEY PERFORMANCE INDICATORS OF STRATEGIC DEVELOPMENT

No	Indices	2014	2015	2020
1	Position in the QS BRICS ranking	90	111–120	75
2	The percentage of students in master's degree, postgraduate, and internship programmes from the given contingent (%)	12.18	16.95	20
3	Share of international students from the given contingent, %	4.38	5.14	7
4	Number of publications in Web of Science and Scopus per 1 academic staff member per year	0.23	0.25	0.5
5	Income from R&D per faculty member, thousand roubles	254.8	276.5	500



### **3.2. INFORMATION ON THE VORONEZH STATE UNIVERSITY STRATEGIC DEVELOPMENT PROGRAMME AND THE ACHIEVEMENT OF TARGET PARAMETERS FOR 2015**

The Voronezh State University Strategic Development Programme has been ongoing since 2012 and is to be completed in 2016. Within the scope of this Programme, the following strategic tasks are to be solved:

- Modernizing the educational process.
- Modernizing the research capacity and innovation activities.
- Human resource development and ensuring a high level of excellence of the students.
- Modernizing the infrastructure.
- Enhancing the organizational structure of the University and improving management efficiency.

State funding of the measures taken within the scope of the Strategic Development Programme in 2012–2014 amounted to 237.22 million roubles, while the extra-budgetary funds for the same period amounted to 214 million roubles. For 2015 and 2016, no state funding is planned; therefore, the events are to be funded using only the University's own resources.

In the reporting year, 48 out of 53 target parameters of the Program were achieved by 100 per cent or greater (Table 3.2).

Table 3.2

### A REPORT ON THE ACHIEVEMENT OF TARGET PARAMETERS OF THE STRATEGIC DEVELOPMENT PROGRAMME FOR 2015

No	Sets of parameters, parameters	Units of measurement	Planned	Actual	Percentage of completion
<b>1. Educational activity success indicators</b>					
1.1.	The number of main academic programmes in accordance with the licence for educational activities:	units	171	176	102.92
1.1.1.	bachelor's degree course, diploma degree (specialist) courses	units	52	56	107.69
1.1.2.	master's degree courses	units	40	40	100.00
1.1.3.	postgraduate programmes	units	79	80	101.27
1.2.	The share of master's degree students from the given contingent	%	9.5	12.98	136.63
1.3.	The number of postgraduate students per 100 students from the given contingent	number of people	5.1	5.04	98.82
1.4.	The share of postgraduate students having defended their dissertation in due time and within one year after the completion of their course of studies, among all the postgraduate students completing the course in the given year	%	45	41.13	91.40
1.5.	Average annual contingent in advanced training and professional retraining programmes	number of people	213	416	195.31
1.6.	The share of the University graduates obtaining employment in their professional field (within three years after graduation)	%	95	98.51	103.69
1.7.	The share of international students from the CIS, the Baltics, Georgia, Abkhazia, and South Ossetia, from the given contingent	%	1.5	2.11	140.67
1.8.	The share of international students from countries other than the CIS, the Baltics, Georgia, Abkhazia, and South Ossetia, from the given contingent	%	3.1	3.22	103.87
1.9.	The share of the regular staff in the total number of FTE	%	98	98.04	100.04
1.10.	The share of the regular staff in the total number of the regular FTE				
1.10.1.	under 30	%	14	14.77	105.50
1.10.2.	aged 30 to 39	%	26.9	28.92	107.51
1.11.	The share of the regular staff having a PhD or a DSc degree in the total number of the regular FTE:				
1.11.1.	in total	%	74	77.11	104.20
1.11.2.	under 30	%	6.5	7.00	107.69
1.11.3.	aged 30 to 39	%	21	23.08	109.90
1.12.	The number of textbooks and study guides written by the regular staff out of the total number of the regular FTE of the University	units	0.35	0.3509	100.26

No	Sets of parameters, parameters	Units of measurement	Planned	Actual	Percentage of completion
<b>2. The indicators of research capacity effectiveness</b>					
2.1.	The share of full-time students participating in scientific research and development for a salary or as joint participants in R&D reports, among the total number of full-time students of the University	%	5.7	5.74	100.70
2.2.	The amount of R&D financing from all sources	million roubles	256.4	363.813	141.89
2.3.	The share of R&D financing in the total amount of financing	%	13.5	18.09	134.00
2.4.	The amount of administrative agreement R&D financing	million roubles	53	135.414	255.50
2.5.	The amount of R&D financing in the total number of FTE	thousand roubles	190	258.500	136.05
2.6.	The number of FTE of the academic staff members	number of people	238	241	101.26
2.7.	The number of dissertations defended by the regular academic staff members in the total number of regular FTE	units	0.02	0.0106	53.00
2.8.	The number of monographs written by the regular academic staff members in the total number of regular FTE	units	0.07	0.0725	103.57
2.9.	The number of articles written by the regular academic staff members and published in scientific periodical publications indexed by national and international organizations (Web of Science, Scopus, Russian Science Citation Index), as well as in Russian peer-reviewed journals, in the total number of regular FTE	units	1.55	1.7078	110.18
<b>3. Innovation activity success indicators</b>					
3.1.	The number of applications for documents of title for the intellectual property	units	36	94	261.11
3.2.	The number of registered software for computers, databases, integrated circuit topographies	units	12	30	250.00
3.3.	The number of patents	units	33	34	103.03
3.4.	The number of patents held	units	60	86	143.33
3.5.	The number of license agreements for other organisations to use the intellectual property items	units	13	18	138.46
3.6.	The number of small innovative enterprises (business companies) created by the University in accordance with the Federal Law № 217-FZ of 2 August 2009	units	30	31	103.33
3.7.	Total financing of the University's activities using the funds from the international companies and organisations	million roubles	3	11.758	391.93

End of table 3.2

No	Sets of parameters, parameters	Units of measurement	Planned	Actual	Percentage of completion
<b>4. Indicators of finance and resource sustainability</b>					
4.1.	Carrying value of the most valuable assets net of depreciation	million roubles	176.9	250.589	141.66
4.2.	Revenue structure (amount), of which	million roubles	1898.8	2011.584	105.94
4.2.1.	financing by estimate (through the founder's subsidies), total	million roubles	896.3	942.603	105.17
4.2.2.	funds obtained through R&D from other sources	million roubles	190	305.235	160.65
4.2.3.	funds obtained from commercial educational services	million roubles	809.5	707.673	87.42
4.2.4.	other sources	million roubles	3	56.073	1869.10
4.3.	Average salary of the academic staff members:				
4.3.1.	in total	thousand roubles	19.27	33.680	174.78
4.3.2.	assistant	thousand roubles	16.8	20.345	121.10
4.3.3.	Associate Professor	thousand roubles	27	35.469	131.37
4.3.4.	Professors	thousand roubles	33.2	47.75	143.83
4.3.5.	Heads of Departments	thousand roubles	28.9	60.274	208.56
4.3.6.	Deans	thousand roubles	46.7	77.026	164.94
4.4.	The ratio of the average monthly salary of academic staff members compared to the average monthly salary in Russian Federation constituent territory where the university is located	%	140	133.2	95.14
4.5.	The share of the funds obtained through income-generating activities in the total amount of funding received from all sources	%	52.8	53.14	100.64
4.6.	The share of the funds from all sources used for maintaining the property	%	9.1	9.92	109.01
4.7.	The share of the funds from all sources used for developing the property complex	%	8	12.89	161.13
4.8.	The share of students provided a place in a dormitory	%	80	96.45	120.56
<b>5. Specific target values</b>					
5.1.	The area of refurbished academic buildings	m <sup>2</sup>	0	18 256.99	100.00
5.2.	The area of refurbished dormitory premises	m <sup>2</sup>	0	1903.20	100.00



### 3.3. VORONEZH STATE UNIVERSITY IN NATIONAL AND INTERNATIONAL RATINGS

Table 3.3

#### VSU POSITION IN UNIVERSITY RANKINGS

Name of the rating, organization		2015
Rankings of Russian Universities (Interfax): classical universities and research institutions		22
Expert RA Rating of Russian higher educational institutions		40
Best universities by the level of research according to the Expert RA Rating		18
Ranking of most demanded universities of the Russian Federation in 2015 Classical Universities Rossia Segodnya		6
University reputation ranking: Top-50 in the field of "Engineering, natural and exact sciences" ( <i>Expert RA</i> )		43
University reputation ranking: Top-50 in the field of "Economics and Management training" ( <i>Expert RA</i> )		23
100 best Russian universities training specialists for the media industry (Ministry of Communications and Mass Media of the Russian Federation)		18
Rankings of Russian research organisations (e-Library)		32
Top Russian universities, according to Vladimir Potanin Foundation		45–46
Ranking of Russian universities by the salaries of young specialists, according to the Superjob portal:	Jurisprudence	7
	IT	17
	Economics and Management	18
Quacquarelli Symonds World University Ranking (QS)		701+
QS University Rankings: BRICS	in the Russian Federation	25
	in the world	111–120
QS University Rankings: Emerging Europe and Central Asia		91–100
QS Graduate Employability Ranking of Universities		200+
Round University Ranking	in the Russian Federation	18
	in the world	643
Life Sciences	in the Russian Federation	8
	in the world	436
Natural Sciences	in the Russian Federation	11
	in the world	418
Technical Sciences	in the Russian Federation	9
	in the world	425
University Ranking by Academic Performance (URAP)	in the Russian Federation	19
	in the world	1823
Webometrics Ranking of World Universities	in the Russian Federation	24
	in the world	2162
UI GreenMetric World University Ranking		336
Setting and Infrastructure		228
Energy and climate exchange		309
Waste		317
Water		337
Transportation		375
Education		130
Academic Ranking of World Universities-European Standard (ARES), published by the European Scientific-Industrial Chamber		A+
Academic Ranking of World Universities (ARWU)		501+



### 3.4. INFORMATION ABOUT THE UNIVERSITY SUCCESSFULLY PASSING THE EFFICIENCY MONITORING ASSESSMENT

In 2015, the University successfully passed the monitoring of the performance of state higher education institutions held by the Ministry of Education and Science of the Russian Federation.

It was able to achieve its target values in all the 7 key performance indicators (Table 3.4, Figure 3.1). In 2015, universities were adjudged effective if they achieved at least 4 KPIs out of 7. The results of the monitoring may be found on the Main Data-Computing Centre of the Ministry of Education and Science of the Russian Federation at <http://indicators.miccedu.ru/monitoring>.

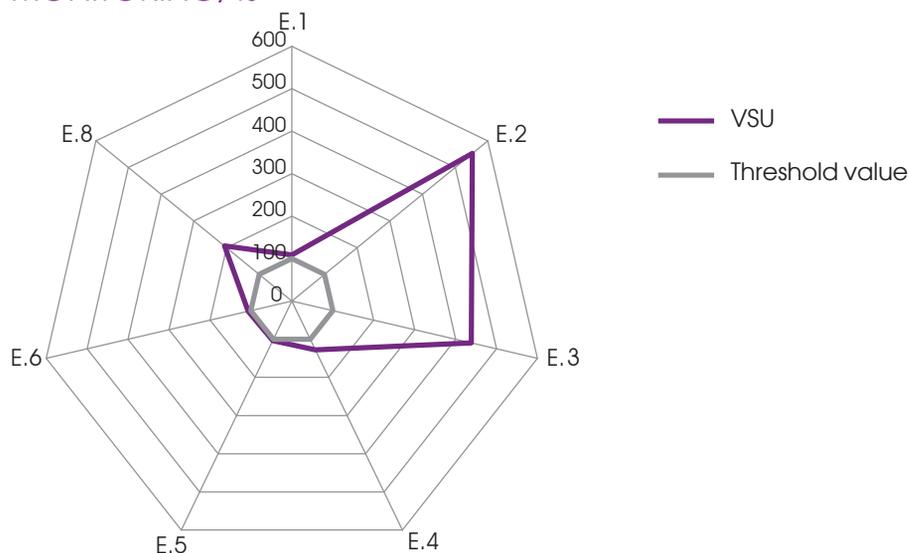
Table 3.4

#### THE RESULTS OF THE UNIVERSITY'S PERFORMANCE MONITORING FOR KEY INDICATORS

No	Indicator title	Values	Threshold value	Change compared to the previous year
E.1	Educational activity (average state exam score)	65.21	60	-7.0%
E.2	Research and Development (Research and Development per faculty member)	283.37	51.28	+32.3%
E.3	International activities (share of international students from the given contingent)	4.38	1	+4.0%
E.4	Financial and economic activity (the income from all sources per faculty member)	1697.81	1327.57	+21.3%
E.5	Salary of the academic staff members (per cent to the average salary in the region)	129.71	125	Not applicable
E.6	Employment (according to the Pension Fund of the Russian Federation)	80 ± 2.5	75	Calculation methodology has changed
E.8	Additional indicator (staff with PhD per 100 students)	5.73	2.78	+6.5%

Figure 3.1

#### THE ACHIEVEMENT OF TARGET PARAMETERS FOR PERFORMANCE MONITORING, %





The results of the performance monitoring by field are shown in Table 3.5.

Table 3.5

### THE RESULTS OF THE PERFORMANCE MONITORING BY FIELD

No	Indicator title	Units of measurement	Values
<b>1. Educational activity</b>			
1.1	The average grade of state exams of students who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes funded by the Russian Federation state budget resources.	grade	70.64
1.2	The average grade of state exams of students who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes funded by the Russian Federation state budget resources, except for those who enrolled due to special privileges or under employer-sponsored quotas	grade	70.22
1.3	The average grade of state exams of students who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes with the education cost value covered by natural and legal persons	grade	60.75
1.4	Minimal grade of state exams of students who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes, average for the existing programmes (discipline areas)	grade	46.29
1.5	The number of student winners and awardees of the final stage of the All-Russian Academic contest among Schoolchildren, members of the Russian Federation national teams having taken part in international contests in general subjects and/or discipline areas corresponding to the profile of the All-Russian Academic, who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes without any admission tests	number of people	1
1.6	The number of student winners and awardees of the academic contests held among schoolchildren who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes in discipline areas corresponding to the contest profile without any admission tests	number of people	16
1.7	The number of employer-sponsored students who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes	number of people	36
1.8	The percentage of employer-sponsored students who enrolled in full-time bachelor's and diploma degree (specialist) study programmes from the total number of students having enrolled in full-time bachelor's degree and diploma degree (specialist) degree programmes	%	1.22
1.9	The percentage of the given contingent enrolled in master's degree programmes from the total number of the given contingent enrolled in bachelor's, specialist's, and master's degree programmes	%	8.05
1.10	The percentage of the given contingent enrolled in master's degree and postgraduate academic staff training programmes from the total number of the given contingent enrolled in the main academic programmes of higher education	%	11.29

Table cont. 3.5

No	Indicator title	Units of measurement	Values
1.11	The percentage of students having a bachelor's, specialist's, or master's degree obtained in another establishment who enrolled in master's degree programmes from the total number of students having enrolled in full-time master's degree programmes	%	21.14
1.12	The percentage of the students enrolled in master's degree and postgraduate academic staff training programmes and having a bachelor's, specialist's, or master's degree obtained in another establishment from the total number of the students enrolled in the master's degree and postgraduate academic staff training programmes	%	77.58
1.13	The number of postgraduate students per 100 students of the given contingent at the University	number of people	4.47
1.14	The percentage of the participants from outside organizations from the total number of participants completing advanced training or retraining programmes at the University	%	83.56
1.15	The percentage of the students enrolled in full-time employer-sponsored bachelor's, specialist's, and master's degree programmes in Engineering, Technologies and Technical Sciences, Healthcare and Medical Sciences, and Education and Pedagogical Sciences, from the total number of students enrolled in the study programs in these areas	%	1.04
<b>2. Research</b>			
2.1	Number of citations of the publications issued in the last five years, indexed in the Web of Science information and analysis system of science citation, per 100 academic staff members	units	33.30
2.2	Number of citations of the publications issued in the last five years, indexed in the Scopus information and analysis system of science citation, per 100 academic staff members	units	49.11
2.3	The number of citations of the publications issued in the last five years, indexed in the Russian Science Citation Index, per 100 academic staff members	units	177.69
2.4	Number of the publications indexed in the Web of Science information and analysis system of science citation, per 100 academic staff members	units	13.28
2.5	Number of the publications indexed in the Scopus information and analysis system of science citation, per 100 academic staff members	units	23.97
2.6	Number of the publications indexed in the Russian Science Citation Index information and analysis system of science citation, per 100 academic staff members	units	221.08
2.7	The total amount of research and design and experimental work (hereinafter referred to as R&D)	thousand roubles	416 051.70
2.8	The share of the income from R&D from the total income of the educational establishment	%	17.12
2.9	The share of R&D conducted without subcontracting from the total income of the educational establishment obtained from R&D	%	89.59
2.10	The income obtained from R&D (with the exception of the Russian Federation state budget resources and funding from national science foundations) per one academic staff member	thousand roubles	91.60
2.11	The number of license agreements	units	29



Table cont. 3.5

No	Indicator title	Units of measurement	Values
2.12	The amount of finance obtained by the University from using the results of intellectual activities from the total income of the educational establishment	%	0.00
2.13	The percentage of the academic staff members without a degree aged under 30, PhDs – under 35, DScs – under 40 from the total number of academic staff members	%	28.01
2.14	The percentage of the academic staff members having obtained a PhD or a DSc degree in the year under report, from the total number of academic staff members	%	2.72
2.15	The number of journals, including electronic journals, published by the University	units	21
2.16	The number of grants obtained in the reporting year, per 100 academic staff members	units	5.45
<b>3. International activity</b>			
3.1	The percentage of international students (except CIS countries) enrolled in bachelor's, specialist's, and master's degree programmes, from the given contingent	%	3.05
3.2	The percentage of international students from CIS countries enrolled in bachelor's, specialist's, and master's degree programmes, from the given contingent	%	1.33
3.3	The percentage of international students having completed bachelor's, specialist's, and master's degree programmes, from the given contingent	%	3.14
3.4	The percentage of international students (except CIS countries) having completed bachelor's, specialist's, and master's degree programmes, from the given contingent	%	1.86
3.5	The percentage of international students (from CIS countries) having completed bachelor's, specialist's, and master's degree programmes, from the given contingent	%	1.29
3.6	The percentage of the students enrolled in full-time bachelor's, specialist's, and master's degree programmes who spent at least a semester (academic term) studying abroad	%	0.88
3.7	The number of the students of international educational establishments having completed a full-time bachelor's, specialist's, or master's degree programmes for at least a semester (academic term) per 100 full-time students	units	0.57
3.8	The percentage of foreign residents among the academic staff members	%	1.03
3.9	The number of international professors, lecturers, and researchers employed by the University for at least 1 semester	number of people	1
3.10	The percentage of foreign residents (except the CIS countries) among the University postgraduate students from the total number of postgraduate students	%	9.05
3.11	The percentage of foreign residents (from the CIS countries) among the University postgraduate students from the total number of postgraduate students	%	0.92
3.12	The amount of finance obtained by the University from foreign residents and foreign corporations for R&D	thousand roubles	43.20
3.13	The amount of finance for educational activities obtained by the University from foreign residents and foreign corporations for R&D	thousand roubles	156.90

End of table 3.5

No	Indicator title	Units of measurement	Values
<b>4. Financial and economic activity</b>			
4.1	The funds obtained through income-generating activities per academic staff member	thousand roubles	628.19
4.2	The share of the funds obtained through income-generating activities from the total income received from all sources	%	37.00
4.3	The ratio of the average salary of the academic staff members at the University (from all sources) compared to the average salary in the region	%	134.64
4.4	The income of the University obtained from all sources from the given contingent of students	thousand roubles	170.77
<b>5. Infrastructure</b>			
5.1	Total floor space of all classrooms and laboratories per student of the given contingent, including:	m <sup>2</sup>	15.59
5.2	Owned by the University	m <sup>2</sup>	0.00
5.3	Assigned to the University on the basis of operational management	m <sup>2</sup>	7.68
5.4	Assigned to the University for free use	m <sup>2</sup>	7.91
5.5	rented	m <sup>2</sup>	0.00
5.6	The number of personal computers per student of the given contingent	units	0.19
5.7	The percentage of the value of machines and equipment no more than 5 years old from the total value of machines and equipment	%	59.88
5.8	The number of copies of printed educational publications (including textbooks and study guides) from the total number of depository items registered in the library collection per one student of the given contingent	units	218.17
<b>6. Employment</b>			
6.1	The percentage of graduates finding employment within one calendar year after the year of graduation from the total number of graduates having completed the main academic programmes of higher education	%	80.00
<b>7. Staff</b>			
7.1	The percentage of the academic staff members with a PhD degree from the total number of academic staff members	%	56.45
7.2	The percentage of the academic staff members with a DSc degree from the total number of academic staff members	%	20.66
7.3	The percentage of the academic staff members with a PhD or a DSc degree from the total number of academic staff members (with the exception of part-time and civil contract employees)	%	77.74
7.4	The percentage of the academic staff members with a PhD or a DSc degree, per 100 students	units	6.16
7.5	The percentage of regular academic staff members from the total number of academic staff members	%	87.48



### 3.5. HUMAN RESOURCES

The high-priority areas of the human resources policy of the University are:

- Developing the system of renewing and enhancing the University's academic staff.
- Supporting young scholars and postgraduate students.
- Supporting initiatives in the area of education.
- Introducing new methods and advanced training and retraining programmes for the academic staff of the University.
- Forming a reserve of University personnel.
- Developing and implementing a system of rankings for the departments and academic staff of the University.
- Developing an effective system of human resource policy management.
- Improving the remuneration system.
- Raising the University employees' motivation and commitment levels.

Key quantitative characteristics of the staff members supply in 2015 (Figures 3.2, 3.3):

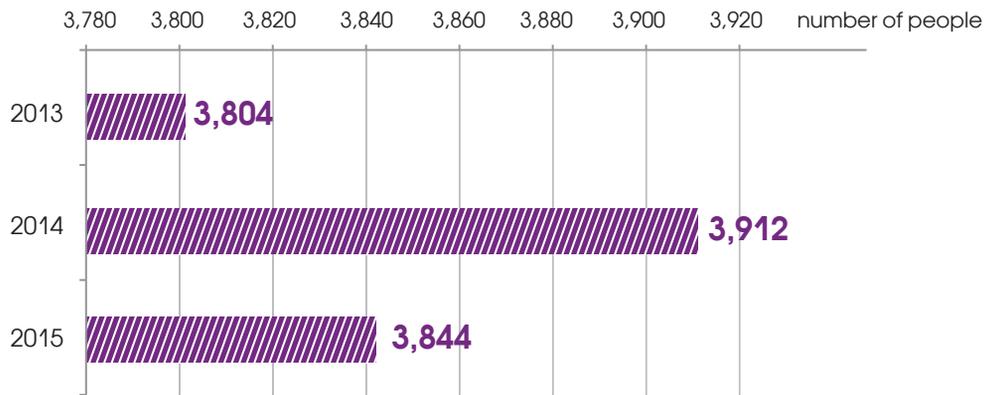
- Total number of the University employees as of 1 January 2016 **3,844 people**

From them:

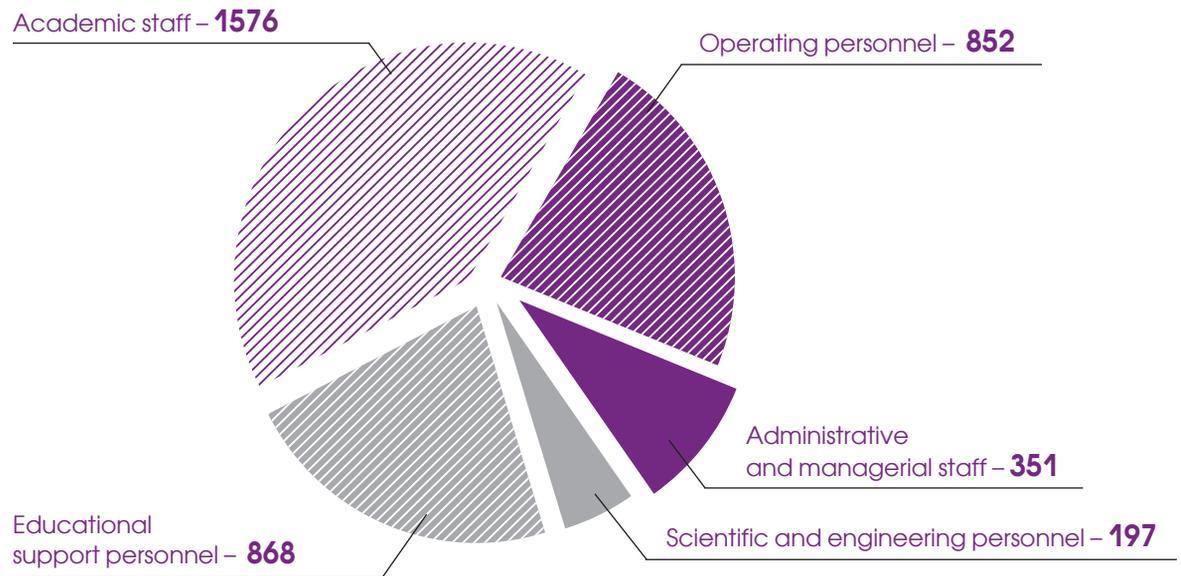
- Number of academic staff members **1,576**
- Number of educational support personnel **868**
- Number of administrative and managerial staff members **351**
- Number of scientific and engineering personnel **197**
- Number of operating personnel **852**



**Figure 3.2**  
TOTAL NUMBER OF STAFF MEMBERS IN 2013–2015



**Figure 3.3**  
A COMPARISON OF THE NUMBERS OF STAFF MEMBERS BY FUNCTION IN 2015





Quantitative and qualitative indicator dynamics in the University staff composition in total in 2013–2015 is shown in Table 3.6.

Table 3.6

NUMBER AND COMPOSITION OF THE UNIVERSITY PERSONNEL IN 2013-2015

The University staff composition	2013	2014	2015
<b>Total number of employees</b>	<b>3804</b>	<b>3912</b>	<b>3844</b>
<b>Academic staff/faculty</b>	1584	1595	1576
Including:			
total number of staff with a degree	1209	1190	1179
DSc	310	311	303
PhD	899	879	876
<b>Educational support personnel</b>	855	861	868
<b>Administrative and managerial personnel</b>	339	340	351
<b>Scientific and engineering personnel</b>	126	235	197
<b>Operating personnel</b>	900	881	852

An analysis of the composition of the University staff demonstrates that 74.8% of the total number of academic staff members have academic degrees (1,179 people). There are 303 staff members with a DSc degree (19.2%).

The results of the academic staff numbers are shown in Figures 3.4–3.8 and in Tables 3.7–3.10.



Figure 3.4

A COMPARISON OF THE NUMBERS OF ACADEMIC STAFF MEMBERS IN 2013–2015

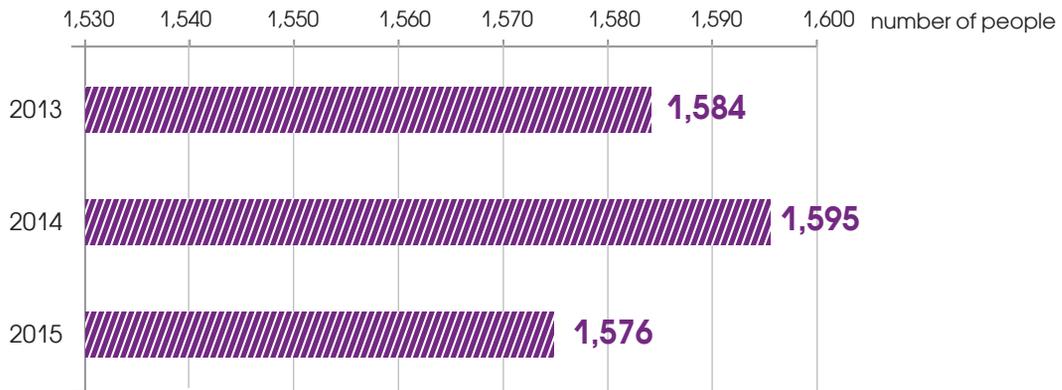


Figure 3.5

THE DISTRIBUTION OF THE ACADEMIC STAFF BY POST AS OF 1 JANUARY 2016

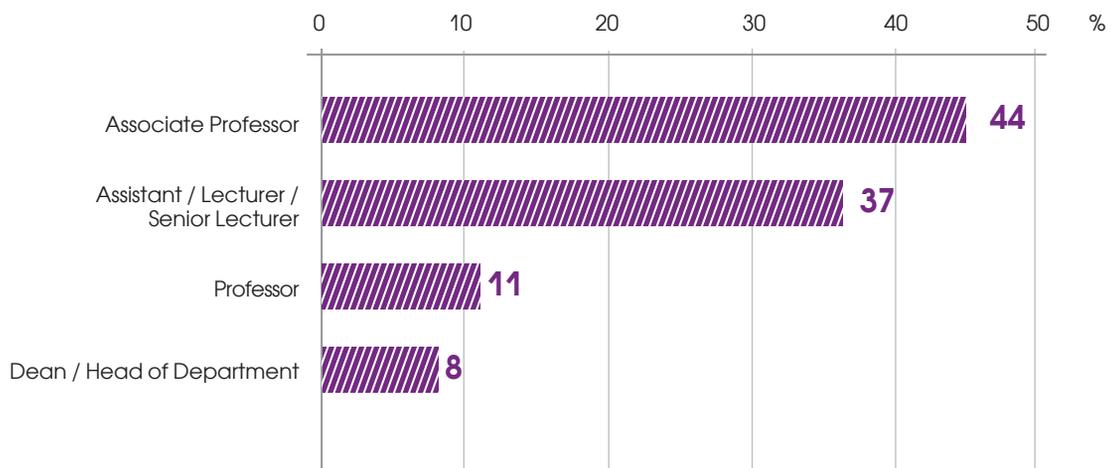


Figure 3.6

THE DISTRIBUTION OF ACADEMIC STAFF NUMBERS BY DEGREE

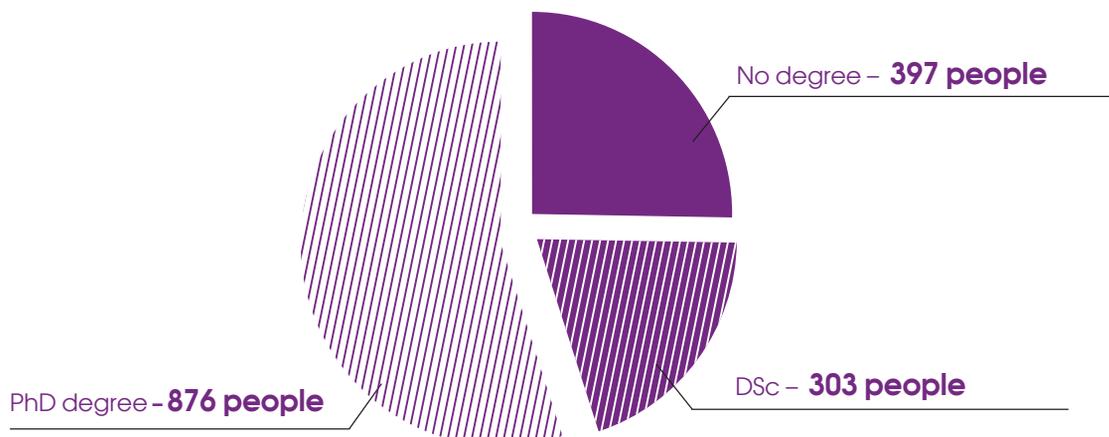




Figure 3.7

### THE NUMBER OF ACADEMIC STAFF MEMBERS OF FACULTIES, INSTITUTES, AND UNIVERSITY-WIDE DEPARTMENTS AS OF 1 JANUARY 2016

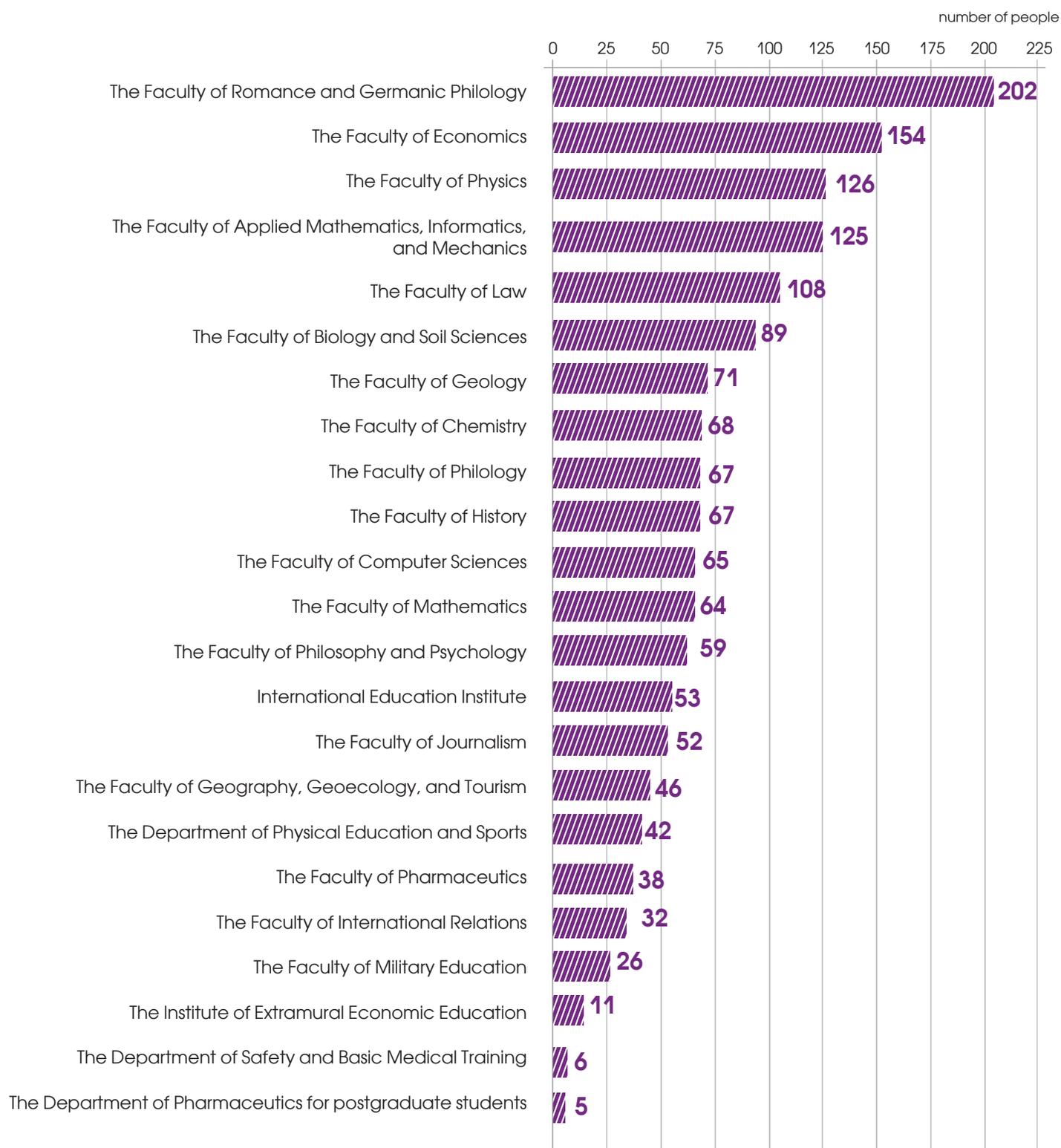


Table 3.7

THE NUMBER OF ACADEMIC STAFF MEMBERS OF FACULTIES, INSTITUTES,  
AND UNIVERSITY-WIDE DEPARTMENTS AS OF 1 JANUARY 2016

Structural subdivision	The number of academic staff members	
	full-time	total
The Faculty of Biology and Soil Sciences	64	89
The Faculty of Geography, Geoecology, and Tourism	34	46
The Faculty of Geology	35	71
The Faculty of History	32	67
The Faculty of Mathematics	38	64
The Faculty of Military Education	25	26
The Faculty of Journalism	23	52
The Faculty of Computer Sciences	30	65
The Faculty of International Relations	16	32
The Faculty of Applied Mathematics, Informatics, and Mechanics	63	125
The Faculty of Romance and Germanic Philology	121	202
The Faculty of Philosophy and Psychology	42	59
The Faculty of Pharmaceutics	24	38
The Faculty of Physics	86	126
The Faculty of Philology	17	67
The Faculty of Chemistry	33	68
The Faculty of Economics	99	154
The Faculty of Law	70	108
The Department of Pharmaceutics for postgraduate students	2	5
The Department of Physical Education and Sports	40	42
The Department of Safety and Basic Medical Training	6	6
International Education Institute	51	53
The Institute of Extramural Economic Education	1	11
<b>Total</b>	<b>952</b>	<b>1576</b>

Figure 3.8

A COMPARISON OF THE NUMBERS OF ACADEMIC STAFF MEMBERS WORKING  
FULL-TIME AND PART-TIME IN 2015

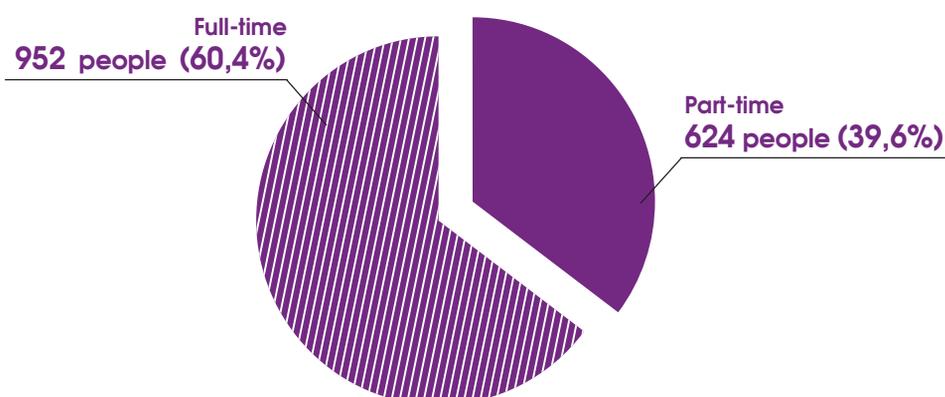




Table 3.8

THE DISTRIBUTION OF ACADEMIC STAFF BY FACILITY, INCLUDING THE PERCENTAGE OF STAFF MEMBERS WITH A PHD AND DSC DEGREE

Structural subdivision	Total number of people	PhDs, %	Dr. habil., %
The Faculty of Biology and Soil Sciences	89	59.6	24.7
The Faculty of Geography, Geoecology, and Tourism	46	60.9	17.4
The Faculty of Geology	71	64.8	22.5
The Faculty of History	67	64.2	22.4
The Faculty of Mathematics	64	56.3	28.1
The Faculty of Military Education	26	11.5	–
The Faculty of Journalism	52	69.2	15.4
The Faculty of Computer Sciences	65	50.8	21.5
The Faculty of International Relations	32	75.0	15.6
The Faculty of Applied Mathematics, Informatics, and Mechanics	125	53.6	18.4
The Faculty of Romance and Germanic Philology	202	48.5	8.4
The Faculty of Philosophy and Psychology	59	62.7	20.3
The Faculty of Pharmaceutics	38	52.6	18.4
The Faculty of Physics	126	61.1	30.2
The Faculty of Philology	67	56.7	26.9
The Faculty of Chemistry	68	50.0	39.7
The Faculty of Economics	154	59.1	18.8
The Faculty of Law	108	62.0	19.4
The Department of Pharmaceutics for postgraduate students	5	80.0	–
The Department of Physical Education and Sports	42	9.5	–
The Department of Safety and Basic Medical Training	6	66.7	16.7
International Education Institute	53	50.9	1.9
The Institute of Extramural Economic Education	11	54.5	27.3

Table 3.9

AGE AND ACADEMIC DEGREE OF ACADEMIC STAFF MEMBERS

Degree	Age					
	Total	under 35	36 to 50	51 to 70	over 70	
<b>Total:</b>	<b>1576</b>	<b>435</b>	<b>482</b>	<b>536</b>	<b>123</b>	
Among them: Have a degree of DSc	303	3	55	178	67	
Have a PhD degree	876	239	330	258	49	

Table 3.10

### THE AVERAGE AGE DISTRIBUTION OF ACADEMIC STAFF MEMBERS BY STRUCTURAL SUBDIVISION

Structural subdivision	2013		2014		2015	
	Total number of people	Average age, years	Total number of people	Average age, years	Total number of people	Average age, years
The Faculty of Biology and Soil Sciences	88	49	87	49	89	49
The Faculty of Geography, Geoecology, and Tourism	41	52	45	50	46	49
The Faculty of Geology	73	49	76	48	71	48
The Faculty of History	69	50	68	50	67	49
The Faculty of Mathematics	64	52	67	51	64	51
The Faculty of Military Education	20	46	25	47	26	48
The Faculty of Journalism	47	48	50	48	52	48
The Faculty of Computer Sciences	54	45	59	45	65	45
The Faculty of International Relations	35	41	35	41	32	42
The Faculty of Applied Mathematics, Informatics, and Mechanics	114	46	117	45	125	45
The Faculty of Romance and Germanic Philology	218	43	207	44	202	44
The Faculty of Philosophy and Psychology	61	45	59	46	59	46
The Faculty of Pharmaceutics	38	45	38	46	38	47
The Faculty of Physics	133	55	133	55	126	55
The Faculty of Philology	75	48	70	50	67	51
The Faculty of Chemistry	63	52	67	51	68	51
The Faculty of Economics	154	47	156	47	154	47
The Faculty of Law	112	43	112	44	108	44
The Department of Pharmaceutics for postgraduate students	4	49	4	50	5	46
The Department of Physical Education and Sports	44	45	44	45	42	46
The Department of Safety and Basic Medical Training	8	50	8	51	6	51
International Education Institute	51	48	51	47	53	47
The Institute of Extramural Economic Education	17	53	17	54	11	58

An analysis of the age of the academic staff members in 2013 demonstrates that the average age of the academic staff members in the University as a whole was 48, whereas the percentage of employees at retirement age was 33%.

An analysis of the age of the academic staff members in 2014 demonstrates that the average age of the academic staff members in the University as a whole was 47.5, whereas the percentage of employees at retirement age was 32.4%.

An analysis of the age of the academic staff members in 2015 demonstrates that the average age of the academic staff members in the University as a whole was 47.7, whereas the percentage of employees at retirement age was 32%.



### **3.6. ACTIVITIES OF THE PURCHASING DEPARTMENT**

The Purchasing Department was created in accordance with a decision made by the Academic Council as a Voronezh State University facility, and has been in operation since 16 February 2011. In the staff list of the department, there are ten positions: Head of the Department, 4 economists, 4 engineers, and the leading design documentation engineer.

#### **KEY FOCUS AREAS OF THE DEPARTMENT:**

1. Quarterly planning of the volumes and terms of purchasing goods, works and services (Making and revising the time-schedule of purchasing goods, works and services using the subsidies obtained from the Russian Federation state budget resources. Making and revising the time-schedule of purchasing goods, works and services using the grant funds, within the scope of the contracts, and using the funds obtained from individuals and legal entities through other income-generating activities).
2. Creating schedules of purchases from Voronezh State University subdivisions, using a unified purchasing request form depending on the source of financing. Requesting additional materials and the necessary data for implementing the tasks within the Purchasing Department's competence.
3. Revising the methods of supplier selection in accordance with the amendments to the Russian Federation contract regulatory framework.
4. Recording any correspondence concerning the Department's scope of activities.
5. Monitoring the operation of Voronezh State University's structural subdivisions regarding compliance with the deadlines for purchase requests and changes to the time-schedule of purchasing goods, works, and services by Voronezh State University.
6. Placing the purchase orders for goods, works, and services on the Integrated Information System (website [www.zakupki.gov.ru](http://www.zakupki.gov.ru)). Monitoring order placement in the electronic document management system on the electronic trading platform.



7. Managing the documents for placing orders for the purchase of goods, works, and services; keeping all the required records for the specified period.
8. Organizing the work of registering contracts in the Integrated Information System, maintaining the register of existing contracts, their implementation and cancellations, registering notifications, documentation, and appendices thereto, for competitive selection of the suppliers of goods, works, and services.
9. Correcting specifications and task orders for the competitive selection of the suppliers of goods, works, and services, in accordance with the official duties and upon consultation with the specialists of the structural subdivisions that initiated the purchase.
10. Organizing the work of the Unified Committee on Order Placement at the University and providing supporting information.
11. Document management in the Purchasing Department in accordance with the adopted file register.
12. Cooperating with the Supply Department on the issues of storing, recording, and distributing the material assets obtained through the delivery of the goods, works, and services, among the University's structural subdivisions; as well as organizing document flow for warranty repairs in accordance with the provisions of the contracts.
13. Preparing and submitting monthly electronic statistical reports using the Integrated Information System (website [www.zakupki.gov.ru](http://www.zakupki.gov.ru)) by the amount and number of contracts signed, including with small business entities and socially oriented non-commercial organisations.
14. Advanced training for the employees of the Purchasing Department in the following programmes: "A contractual system in the field of purchasing goods, works, and services. Purchase management" (120 hours) – 1 person; "State and municipal order management" (120 hours) – 4 people; a certificate of advanced practice professional in pricing and cost estimates in construction – 1 person.
15. The specialists of the Purchasing Department take an active part in organizing advanced training classes for contractual system specialists as part of the programme in Purchase Management in the Contractual System (72 hours) at the VSU Business School and L.T. Gilyarovskaya Resource Centre.



## AN ANALYSIS OF THE PURCHASING DEPARTMENT PERFORMANCE

In 2015, 1761 agreements were signed. The sources of financing were the subsidies obtained from the Russian Federation state budget resources, grants, funds obtained from state contract execution, as well as funds obtained from individuals and legal entities through other income-generating activities. Under the completed contract, upon the placement of orders for purchasing goods, works, and services, the main sources of financing for the purchasing activities were grants, funds obtained from state contract execution, as well as funds obtained from individuals and legal entities through other income-generating activities.

The analysis of the contents and structure of the contracts signed in 2015 by source of financing can be found in Table 3.11 and Figure 3.9.

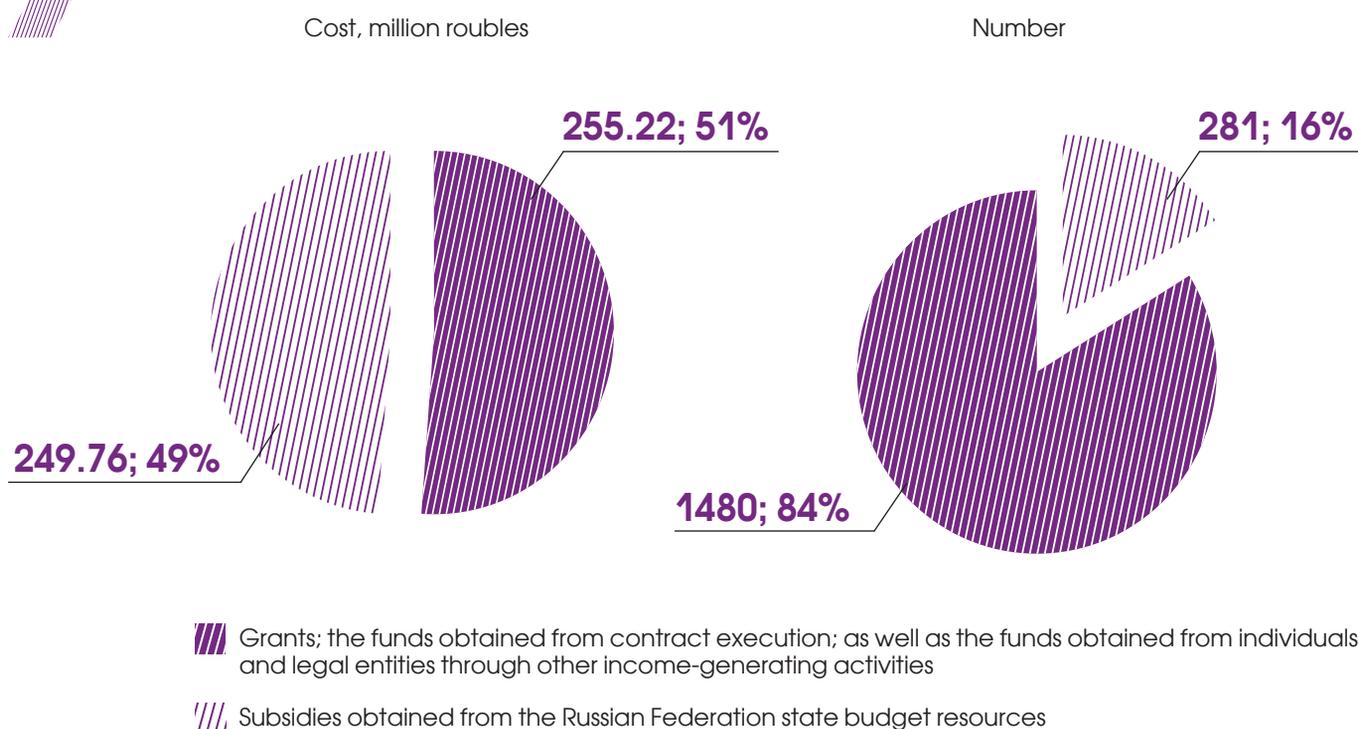
Table 3.11

### THE ANALYSIS OF THE CONTENTS AND STRUCTURE OF THE CONTRACTS SIGNED IN 2015 BY SOURCE OF FINANCING

No	Source of financing	Volume of the contracts signed in 2015			
		number	percentage of the total, %	cost, thousand roubles	percentage of the total, %
1	Grants; funds obtained from contract execution; as well as funds obtained from individuals and legal entities through other income-generating activities	1480	84	255,221.6	50.5
2	Subsidies obtained from the Russian Federation state budget resources	281	16	249,761.6	49.5
<b>Totals</b>		<b>1761</b>	<b>100</b>	<b>504,983.2</b>	<b>100</b>

Figure 3.9

## VOLUME OF THE CONTRACTS SIGNED IN 2015



The financing of purchasing activities through subsidies amounted to 49.5% of the total volume of purchases in the reporting period, while the amount of funds obtained from grants and other financing sources was 50.5% of the total volume of purchases.

The information about contracts signed through various methods of competitive selection of the supplier may be found in Table 3.12 and in Figure 3.10.

Table 3.12

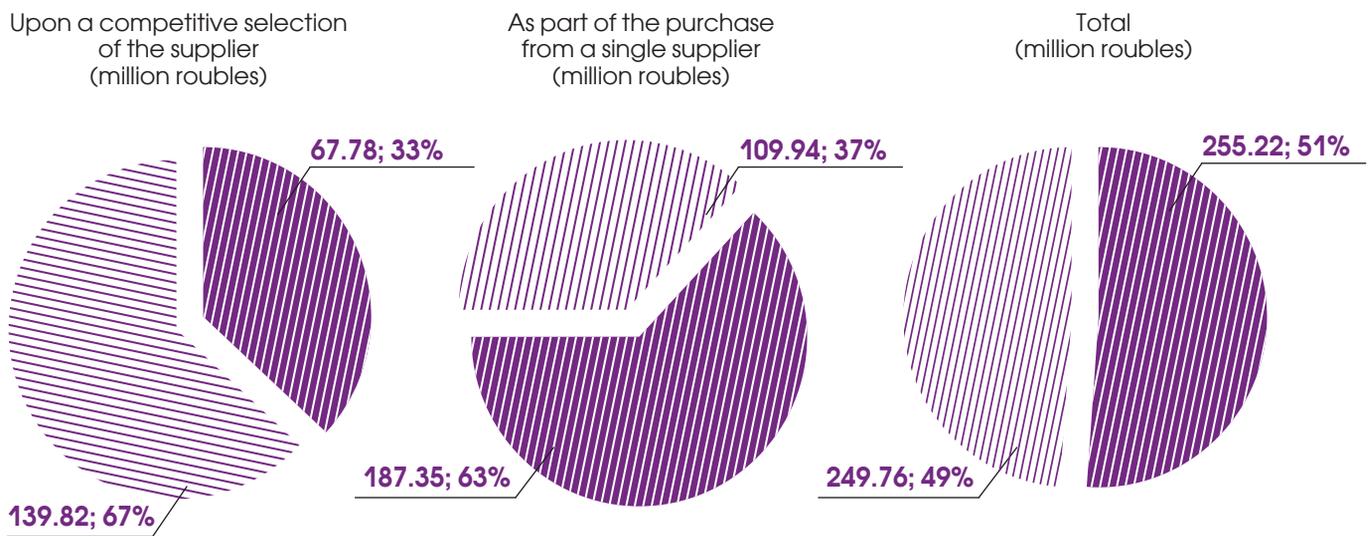
## THE VOLUME OF THE CONTRACTS SIGNED AS PART OF ORDER PLACEMENT FOR PURCHASING GOODS, WORKS, AND SERVICES IN 2015

No	Source of financing	Volume of the contracts signed upon a competitive selection of the supplier		Volume of the contracts signed as part of the purchase from a single supplier		Total volume of signed contracts	
		cost, thousand roubles	percentage of the total, %	cost, thousand roubles	percentage of the total, %	cost, thousand roubles	percentage of the total, %
1	Grants; funds obtained from contract execution; as well as funds obtained through other income-generating activities from individuals and legal entities	67,782.8	32.7	187,348.8	63	255,221.6	50.5
2	Subsidies obtained from the Russian Federation state budget resources	139,819.5	67.3	109,942.1	37	249,761.6	49.5
<b>Totals</b>		<b>207,602.3</b>	<b>100</b>	<b>297,290.9</b>	<b>100</b>	<b>504,983.2</b>	<b>100</b>



Figure 3.10

### THE VOLUME OF THE SIGNED CONTRACTS



▨ Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities

▧ Subsidies obtained from the Russian Federation state budget resources



In 2015, the maximum percentage of purchases was accounted for by the contracts signed with a single supplier. There were 1.4 times as many of them as there were contracts with a competitive selection of the supplier. These contracts were primarily (63%) signed using grants, funds obtained from state contract execution; as well as funds obtained from individuals and legal entities through other income-generating activities. The contracts signed based upon a competitive selection of supplier were primarily signed using the subsidies obtained from the Russian Federation state budget resources, which accounted for 67.3% of the total amount of the contracts signed upon a competitive selection of the supplier.

An analysis was performed of the contents and structure of the contracts financed through subsidies obtained from the Russian Federation state budget resources, signed through various methods of competitive selection of the supplier in 2015. The results of this analysis are shown in Table 3.13 and in Figures 3.11 and 3.12.

Table 3.13

#### ANALYSIS OF THE CONTENTS AND STRUCTURE OF THE CONTRACTS FINANCED THROUGH SUBSIDIES OBTAINED FROM THE RUSSIAN FEDERATION STATE BUDGET RESOURCES, SIGNED THROUGH VARIOUS METHODS OF COMPETITIVE SELECTION OF THE SUPPLIER

Methods of competitive selection of the supplier	Volume of the contracts signed in 2015			
	number	percentage of the total, %	cost, thousand roubles	percentage of the total, %
Open competition	1	0.4	1000	0.4
Online auction	128	45.5	137,256.4	55.0
Invitation to tender	7	2.5	1563.1	0.6
Purchase from a single supplier (contractor, agent), with the information uploaded into the Integrated Information System	45	16	99,094.9	39.7
Purchase from a single supplier (contractor, agent) (up to 100 thousand roubles)	74	26.3	4919.9	2
Purchase from a single supplier (contractor, agent) (up to 500 thousand roubles)	26	9.3	5927.3	2.3
<b>Total</b>	<b>281</b>	<b>100</b>	<b>249,761.6</b>	<b>100</b>



Figure 3.11

### NUMBER OF PROCEDURES OF SUPPLIER SELECTION

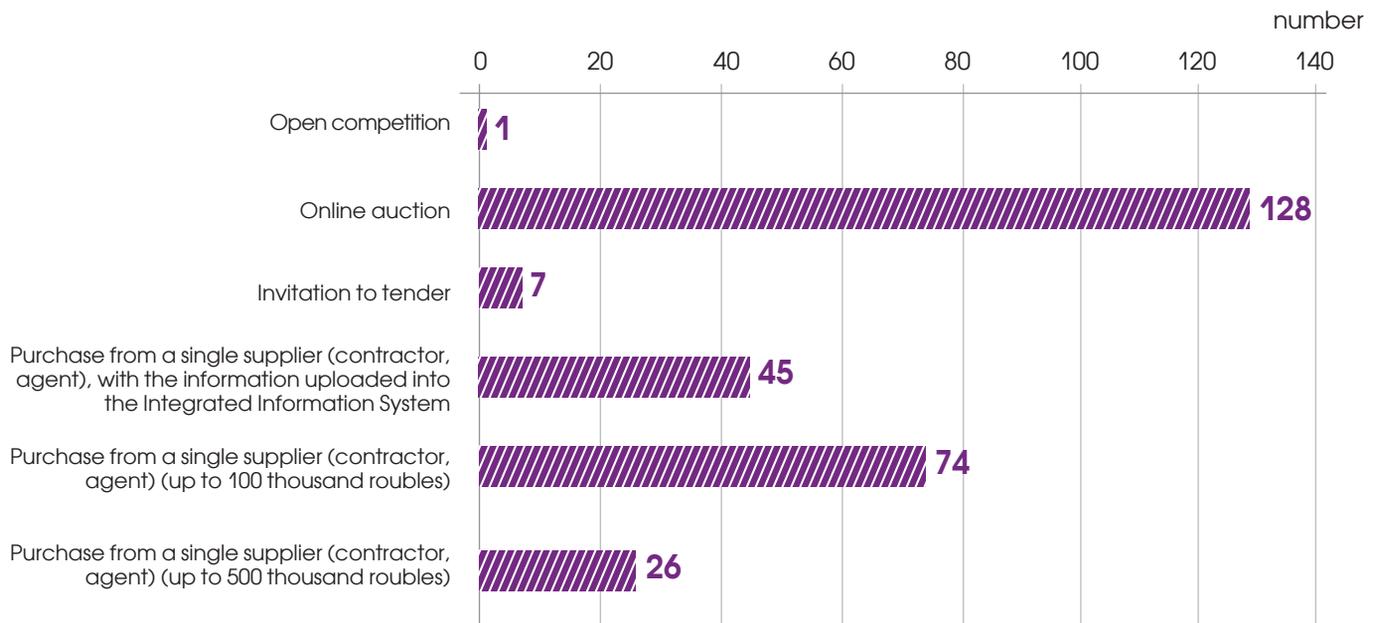
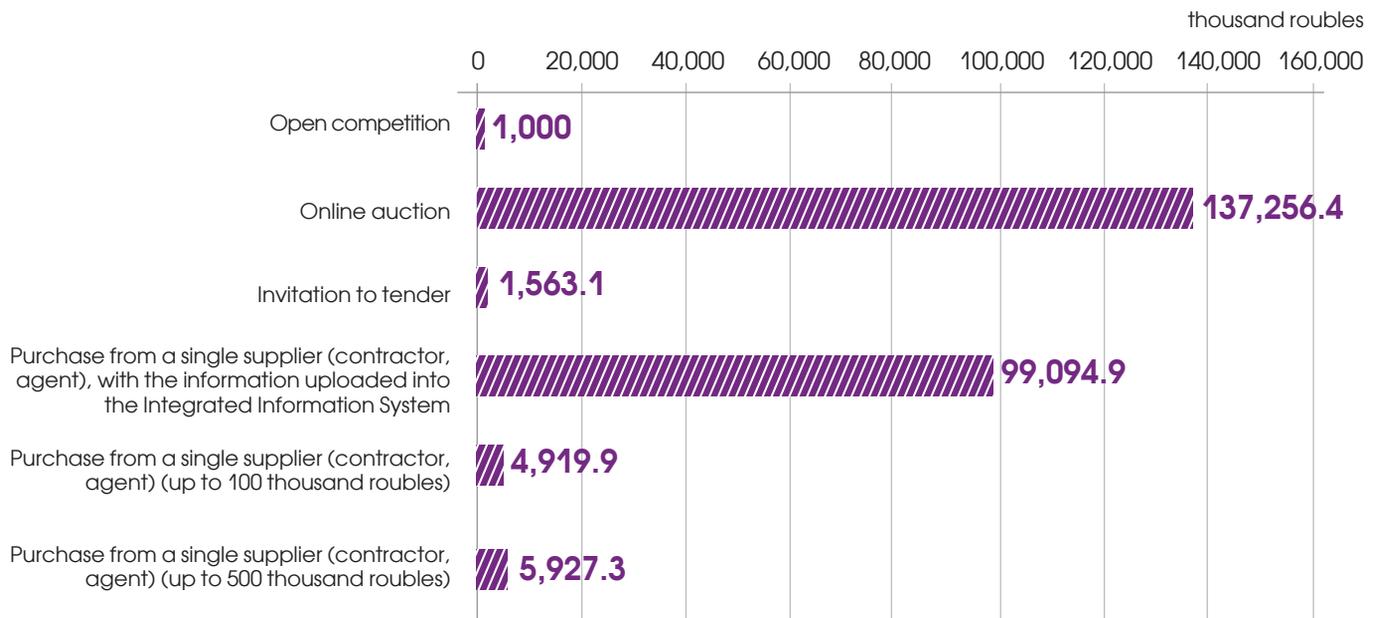


Figure 3.12

### THE VOLUME OF SIGNED CONTRACTS





The statistics presented in Table 3.13 show that the contracts funded with subsidies obtained from the Russian Federation state budget resources were mainly signed as a result of online auctions (55% of the total volume of the contracts signed). Purchases from a single supplier (contractor, agent), with the information uploaded into the Integrated Information System was 39.7% of the total volume of the contracts signed using this source of financing. As for the number of the contracts signed, the largest percentage was accounted for by contracts signed as a result of online auctions (45.5 per cent of the total number of the contracts funded with subsidies obtained from the Russian Federation state budget resources).

Other sources of financing were grants; funds obtained from contract execution; as well as funds obtained from individuals and legal entities through other income-generating activities. The analysis of the structure of the contracts of purchase from a single supplier, in the quarterly periods of 2015, is shown in Table 3.14.

Table 3.14

#### ANALYSIS OF THE STRUCTURE OF THE CONTRACTS OF PURCHASE FROM A SINGLE SUPPLIER

Quarterly periods of 2015	Volume of the contracts signed in 2015 using grants, funds obtained from state contract execution; as well as funds obtained from individuals and legal entities through other income-generating activities			
	number	percentage of the total, %	cost, thousand roubles	percentage of the total, %
1st quarter	309	23.3	44,276.6	23.6
2nd quarter	317	23.8	50,516.5	27
3rd quarter	269	20.3	43,105.9	23
4th quarter	432	32.6	49,449.8	26.4
<b>Total</b>	<b>1327</b>	<b>100</b>	<b>187,348.8</b>	<b>100</b>

The information presented in Table 3.14 shows that the number of the contracts of purchase from a single supplier, the maximum percentage (32.6%) was accounted for by purchases in the 4th quarter of 2015. The maximum amount in terms of total contract value were signed in the 2nd quarter of 2015 (27%).

Table 3.15 demonstrates the contents and structure of the contracts of purchase from a single supplier by the main items of expenditure of FGBOU VO VSU (property, plant and equipment, expendable materials, research, renovations, utility services, teaching services provided by third-party employees, as well as other expenses).



Table 3.15

THE ANALYSIS OF THE CONTENTS AND STRUCTURE OF PURCHASE CONTRACTS FROM A SINGLE SUPPLIER BY THE MAIN ITEMS OF EXPENDITURE

Items of expenditure	Volume of the contracts signed in 2015 using grants, funds obtained from state contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities			
	number	percentage of the total,%	cost, thousand roubles	percentage of the total,%
Additions to property, plant, and equipment	87	6.6	22,810.9	12.2
Materials	175	13.2	26,462.1	14.1
Research	550	41.5	58,696.7	31.3
Renovations	14	1.1	1589.7	0.8
Utility costs	41	3.1	14,955.6	8
Teaching services provided by non-payroll employees	56	4.2	1066.7	0.6
State fees and membership dues	60	4.5	17,619.6	9.4
Other operating expenses	344	25.8	44,147.5	23.6
<b>Total</b>	<b>1327</b>	<b>100</b>	<b>187,348.8</b>	<b>100</b>

The analysis of the contents and structure of the contracts of purchase from a single supplier shown in Table 3.15 demonstrates that the majority of expenses were related to contracts signed for conducting scientific research (41.5% by number and 31.3% by value of the total value of purchase contracts from a single supplier).





As part of the implementation of Federal Law No. 223-FZ of 18 July 2011, 953 requests were accepted for the total amount of 268,460.9 roubles, and 1480 contracts were signed for the total amount of 255,221.6 thousand roubles. Thus, the amount of money saved, as a result of following the procedure, amounted to 13,239.36 roubles, or 4.9% of the initial maximum cost of the submitted requests.

During the formation of a unified purchasing plan as part of the implementation of Federal Law No. 44-FZ of 5 April 2013, 182 requests were accepted for the total amount of 354,610.1 roubles. There were 281 contracts signed for the total amount of 249,761.6 roubles. Thus, the amount of money saved as a result of following the procedure amounted to 104,848.5 roubles, or 29.6% of the initial maximum cost of the submitted requests.

The information on the cost savings as a result of a competitive selection of the supplier is shown in Table 3.17 and in Figures 3.15–3.17.

Table 3.17

THE AMOUNT OF MONEY SAVED THROUGH THE COMPETITIVE SELECTION OF THE SUPPLIER, BY SOURCE OF FINANCING

No	Source of financing	Volume of the contracts signed upon a competitive selection of the supplier		Initial maximum price of the contracts		Cost cutting	
		cost, thousand roubles	percentage of the total, %	cost, thousand roubles	percentage of the total, %	cost, thousand roubles	percentage of the total, %
1	Grants; funds obtained from contract execution; as well as funds obtained from individuals and legal entities through other income-generating activities	67,782.8	32.7	82,240.2	33.8	14,457.4	40.6
2	Subsidies obtained from the Russian Federation state budget resources	139,819.5	67.3	160,956.5	66.2	21,137.0	59.4
<b>Totals</b>		<b>207,602.3</b>	<b>100</b>	<b>243,196.7</b>	<b>100</b>	<b>35,594.4</b>	<b>100.0</b>

Figure 3.15

VOLUME OF THE CONTRACTS SIGNED UPON A COMPETITIVE SELECTION OF THE SUPPLIER, million roubles

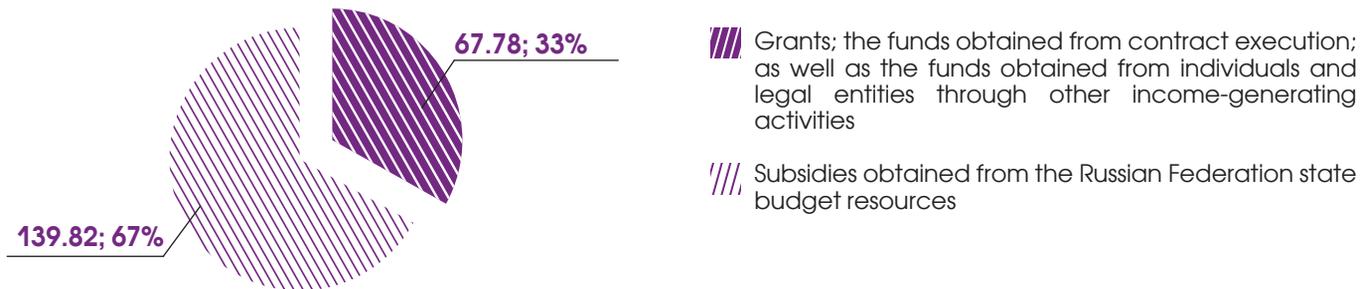


Figure 3.16

INITIAL MAXIMUM PRICE OF THE CONTRACTS, million roubles

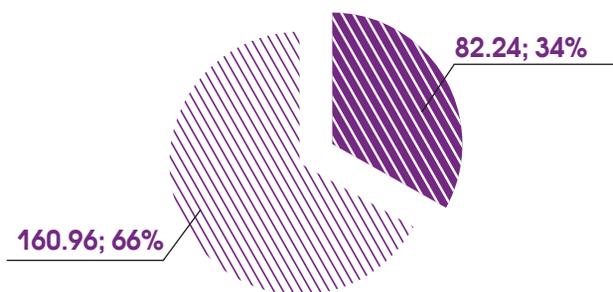
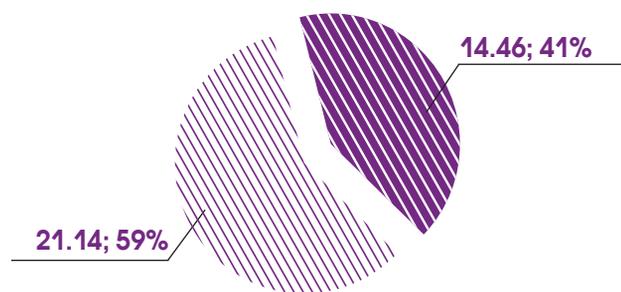


Figure 3.17

INITIAL MAXIMUM PRICE OF THE CONTRACTS, million roubles

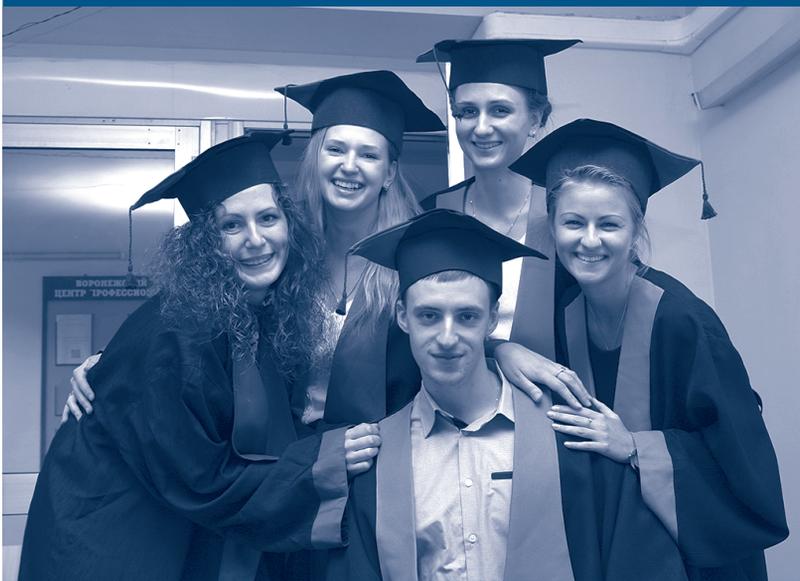


The data presented in Table 3.17 demonstrates that a large amount of financial savings, 59.4% of the total cost savings, – depended on the source of financing (subsidies obtained from the Russian Federation state budget resources). The money saved amounted to 35,594.4 roubles, or 14.6% of the initial maximum cost of the contracts included in the purchasing time-schedule. The purchases made as part of the implementation of the Federal Law No. 223-FZ resulted in financial savings of 14 457.4 thousand roubles, which is 40.6% of the total cost savings.

### FORMING A UNIFIED PURCHASING PLAN

During the formation of a unified schedule of orders from Voronezh State University subdivisions at the end of 2015, 1135 purchase requests were accepted. The information from them became the basis for two time-schedules for the university's purchases in 2015, depending on the sources of financing. These documents may be found on the public purchases website [www.zakupki.gov.ru](http://www.zakupki.gov.ru). The requests conformed to the University's income budget and the Strategic Development Plan.

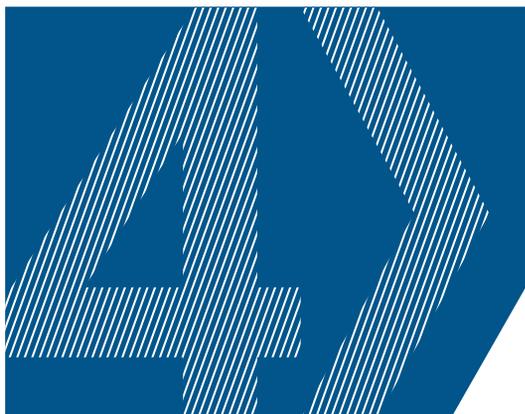
The time-schedule for purchases using the subsidies obtained from the Russian Federation state budget resources was modified 16 times during the calendar reporting period, i.e. 1.3 times per month. Thus, in the 16 modifications to the time-schedule, 80% of the items on the financial document were modified. There were 28 modifications to the provisions of the time-schedule for purchases as part of the implementation of the Federal Law No. 223-FZ, i.e. over two modifications per month.





## EDUCATION

4



## EDUCATION



**E. E. Chupandina,**  
First Vice Rector –  
Vice Rector for Academic  
Affairs

### 4.1. MAIN OBJECTIVES OF THE EDUCATION POLICY IN 2015

The University's main aim in the field of educational activity is to ensure the compliance of the quality of education and the structure of higher and further education programmes with the requirements of modern, innovative, socially oriented development of the Voronezh Region and Russia.

In order to achieve this aim the following objectives were set:

1. Stable anticipatory training of students and academic staff by means of implementing new variable educational programmes based on customized education paths and project-based learning techniques.
2. Successful implementation of the measures aimed at teaching students with disabilities.
3. Expansion of the list of educational programmes for students and academic staff including different fields of engineering.
4. Introduction of the independent quality assessment for higher professional and secondary vocational education programmes by means of the mechanisms of public and professional accreditation of educational programmes.



These objectives were attained with the aid of the programme-target approach. According to the objectives, a number of programmes were formed. Each programme included various projects.

### **THE PROGRAMME “DEVELOPMENT OF THE MAIN HIGHER PROFESSIONAL EDUCATION PROGRAMMES AND PROGRAMMES OF FURTHER VOCATIONAL EDUCATION”**

This programme was implemented by means of the following projects.

#### **The project “Continuing Education System Development”**

**The goal:** scientific, methodological, organisational, and institutional support of the University’s education system in order to improve the human resource capacity of the regional economy and ensure the professional and personal development of the adult population including disabled and physically challenged people.

#### **The project “Competitive-Based Methodological Support of the Educational Process”** (has been running since 2014)

**The goal:** structure and content filling of the main educational programmes according to the achievements in Russian and world science, technology, culture, and innovative educational technologies.

#### **The project “Online Educational Platform Development”** (has been running since 2014)

**The goal:** development of the unified University system of online learning, organisation of the platform for the exchange and testing of network educational programmes with the higher educational institutions in the Central Federal District including pre-university training programmes.

### **THE PROGRAMME “INDEPENDENT QUALITY ASSESSMENT OF THE EDUCATIONAL PROGRAMMES IMPLEMENTED BY THE UNIVERSITY”**

This programme included the following projects.

#### **The project “Development of the Desired System for Education and Educational Outcomes’ Quality Assessment”**

**The goal:** introduction of the mechanisms of public and professional accreditation of higher education programmes and secondary vocational education programmes.

**The result:** compliance of the syllabus and learning outcomes with the requirements of the regional labour market for each enlarged group of academic programmes and specialisations.

#### **The project “Participation in Public Contests of the Quality Management System Assessment for University Educational Services”**

**The goal:** presentation of the University management mechanisms aimed at ensuring the high quality of educational services and improving the University’s image.

**The result:** recognition of the University as a higher educational institution, which ensures high quality of education.



## THE PROGRAMME “ACADEMIC STAFF SUPPORT AND IDENTIFICATION OF THE BEST PRACTICES IN THE FIELD OF METHODOLOGICAL SUPPORT OF THE EDUCATIONAL PROGRAMMES”

This programme was implemented by means of the following project.

**The project “Leader of the Year – Best Head of the Department, Best Professor, Best Associate Professor, and Best Assistant”** (was developed by adding a new nomination “Best Head of the Department”)

**The goal:** introduction of the best pedagogical practices to the educational process.

**The result:** advanced training at the leading Russian universities and participation in scientific and methodological conferences.

## 4.2. GENERAL INFORMATION ON THE MAIN STEPS AND TECHNIQUES OF PRE-UNIVERSITY WORK

In 2015, pre-university training was held within the programme of University’s strategic development in the field of pre-university work.

Main objectives of the pre-university work in 2015.

1. To combine the measures taken in order to create a VSU regional reserve of university entrants into the system.
2. To organise work with new high-technology methods that are used to attract university entrants as well as the interaction with talented young people and children taking into consideration various types of giftedness: academic, intellectual, creative, sport, and social.
3. To develop a system of events for disabled and physically challenged people as a particular target audience including special career guidance, developmental, educational, and adaptation programmes.
4. To continue expanding the fields of work with schoolchildren: from academic activity to the development of creative potential of university entrants in the fields of mass culture and sport.
5. To continue the practical application of the approach to working with preschool, primary, and secondary school children using leading Russian and foreign experience in enlightenment, ethical, and patriotic education.



VSU's pre-university work was carried out within four major areas of focus:

1. Searching for, identifying, attracting, and supporting talented young people.
2. Expansion of the fields of work with schoolchildren: from academic activity to the development of the creative potential of university entrants in the fields of mass culture and sport.
3. Pre-university work with disabled and physically challenged people.
4. Providing information about the University's admissions processes.

## MAIN ACHIEVEMENTS WITHIN THE AREAS OF FOCUS

### THE PROGRAMME "SEARCH FOR, IDENTIFICATION, ATTRACTION, AND SUPPORT OF TALENTED YOUNG PEOPLE"

This programme was implemented due to the implementation of several projects.

**The project "Providing Information about the University's Admissions Processes"** produced the following results:

- Over 125 articles were dedicated to questions concerning the University admission process and studies were published in online mass media, regional mass media, Voronezh State University Newspaper, and in the social network VKontakte (URL: [http://vk.com/abitur\\_vsu](http://vk.com/abitur_vsu)).
- More than 279 thousand people visited the University website "University Entrant"; the number of views amounted to over 1 million a year.
- More than 20 thousand consultations for university entrants were held at the Department of Pre-University Work.
- Two University-wide open days were held, which were attended by over 5 thousand people; around 50 meetings were organised at the University's faculties and departments.
- Off-site open days took place at schools in Voronezh, the Voronezh Region, as well as in nearby regions; in 2015, the project "Province" aimed at supervising under-filled country schools in the Voronezh Region was implemented for the first time.
- The participation in educational exhibitions held in the city and the region was arranged.
- 60 exhibitions at VSU museums and excursions to partner enterprises (Novovoronezh nuclear power plant, Concern Sozvezdie, and the leading Voronezh IT-companies) were organised for form 8-11 schoolchildren.
- More than 10 joint events took place, such as the forum of young teachers from the Voronezh Region "Young Teachers of New Russia", seminars for school headmasters and head teachers, and scientific associations of teachers were created according to University educational programmes (Geology).



**The project “Career Guidance for University Entrants”** included the following events:

- Computer-based testing for schoolchildren at the VSU Testing Centre within the programme “Proorientator” (over 120 people were tested in collaboration with the centre “Humanitarian Technologies”, Moscow).
- Open public popular-science lectures were given by University scientists at the city’s public spaces (museum, libraries, Amital bookshop, and Petrovskiy book club).
- Participation in the forum for talented children, the interregional festival of robotics ROBOART 2015, and the festival of science.
- Organisation of regional conferences for schoolchildren (the conference of the student scientific society, the Kiselev Readings).

## **THE PROGRAMME “IDENTIFICATION AND SUPPORT OF TALENTED SCHOOLCHILDREN”**

### **The project “Academic Contests”**

Moscow State University’s academic contest “Lomonosov”, an engineering academic contest among schoolchildren from Central Russia, and VSU academic contests in the majority of University disciplines were held.

### **The project “Support of Creative and Talented Young People”**

The project was implemented in the Year of Literature in Russia and consisted of:

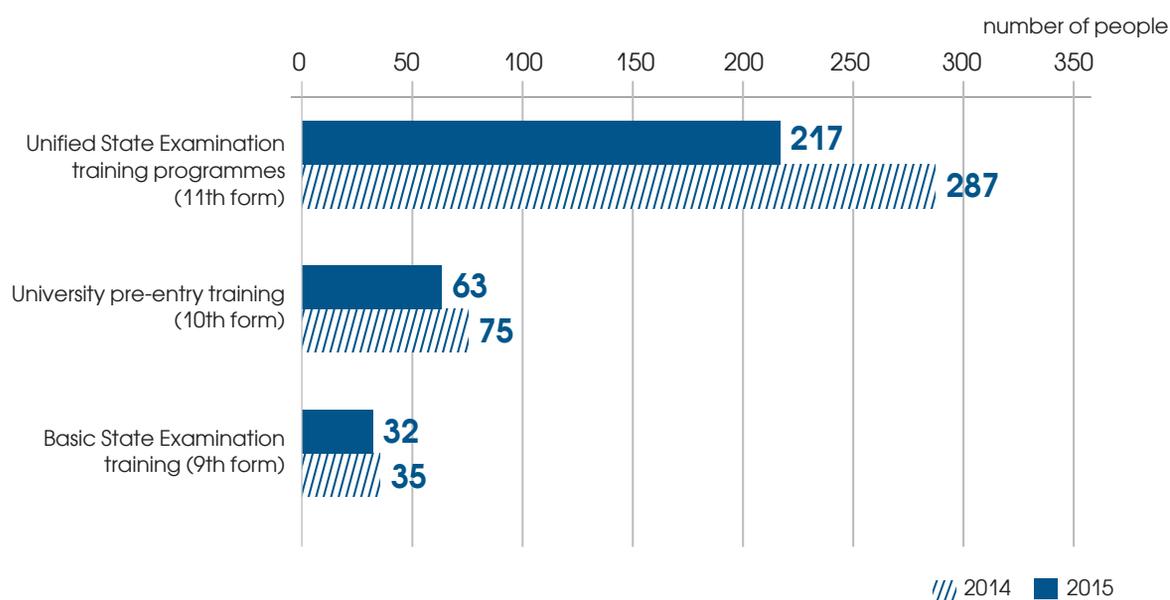
- “The Readers Contest”.
- “The Mother Tongue Day”.
- The contest “The Most Literate”.
- The festival of original songs and poetry “The Stars of the Black Earth Region”.
- The graduation party of the Children’s Foundation for orphaned children from the Voronezh Region.
- A children’s photo contest.
- The contest “Reporter” in mass media sources created by children.
- A teenage newspaper “Mirror”.
- The club of young authors in Novaya Usman.

### **The project “Pre-Study Courses (Additional General Development Programmes)”**

In 2015, 312 students took fee-paying pre-study courses within seven additional general development programmes aimed at improving the level of proficiency in general subjects and university pre-entry training (see Figure 4.1).

Figure 4.1

### FREQUENCY DISTRIBUTION OF STUDENTS ACCORDING TO THE PROGRAMMES OF PRE-STUDY COURSES



In September 2014, the programme “Preparation for the Final Essay” was opened for the 11th form students who had passed the Unified State Examinations (USEs) in 2015. The programme was completed by 38 students.

In the 2014/15 academic year, pre-study courses began to offer training within the programme “USE Remote Training” which is comprised of a series of e-courses. The first group of students who completed the programme amounted to 16.

In 2015, 10 students received funding from federal budget resources for taking part in pre-study courses.

4 students completed their training in accordance with the Order of the Government of the Russian Federation dated 31 August 2013, No 756 “On Conducting an Experiment in Training Young Women Aged up to 23 Years and Having One Child or More at the Pre-Study Divisions of Federal State Educational Organisations of Higher Education in 2013–2015”.

6 students completed their training in accordance with the Order of the Ministry of Education and Science of the Russian Federation dated 15 April 2014, No 323 “On the Approval of the Lists of Federal State Educational Organisations whose Pre-Study Divisions Provide Training Funded from the Federal Budget for the Academic Years 2014/15 and 2015/16”.

In 2015, pre-study courses continued the practice of conducting mock USEs, which were followed by consultations on the examination results held by USE expert lecturers. Sixteen examinations taken by over 200 students were conducted overall.

The analysis of USE results for the graduates of pre-study courses as well as their matriculation results allowed a qualitative assessment of the training provided at the courses (see Tables 4.1, 4.2).

Table 4.1

### AVERAGE GRADE IN THE UNIFIED STATE EXAMINATION FOR THE GRADUATES OF PRE-STUDY COURSES

Discipline	Average grade in the Russian Federation	Average grade in the Voronezh Region	Average grade for the graduates of VSU pre-study courses
<b>2014</b>			
Russian Language	62.50	65.06	76.67
Mathematics	39.63	45.86	59.33
Biology	54.31	58.23	68.36
Geography	53.12	54.03	62.60
Foreign Language (English)	61.25	61.05	64.44
Informatics and ICT	57.19	57.84	67.89
History	45.72	52.98	63.46
Literature	54.07	60.63	68.76
Social Studies	53.09	55.17	64.78
Physics	45.76	46.92	55.74
Chemistry	55.65	63.32	73.33
<b>2015</b>			
Russian Language	65.90	66.41	78.49
Mathematics	50.90	48.82	61.98
Biology	53.60	55.96	68.92
Geography	53	50.86	61.92
Foreign Language (English)	64.04	65.39	71.88
Informatics and ICT	54	52.62	70.27
History	47.10	52.32	60.63
Literature	57.10	64.46	75.21
Social Studies	58.60	55	67.05
Physics	51.10	50.73	66
Chemistry	57.10	62.21	71.33

Table 4.2

### MATRICULATION RESULTS DEMONSTRATED BY THE GRADUATES OF PRE-STUDY COURSES

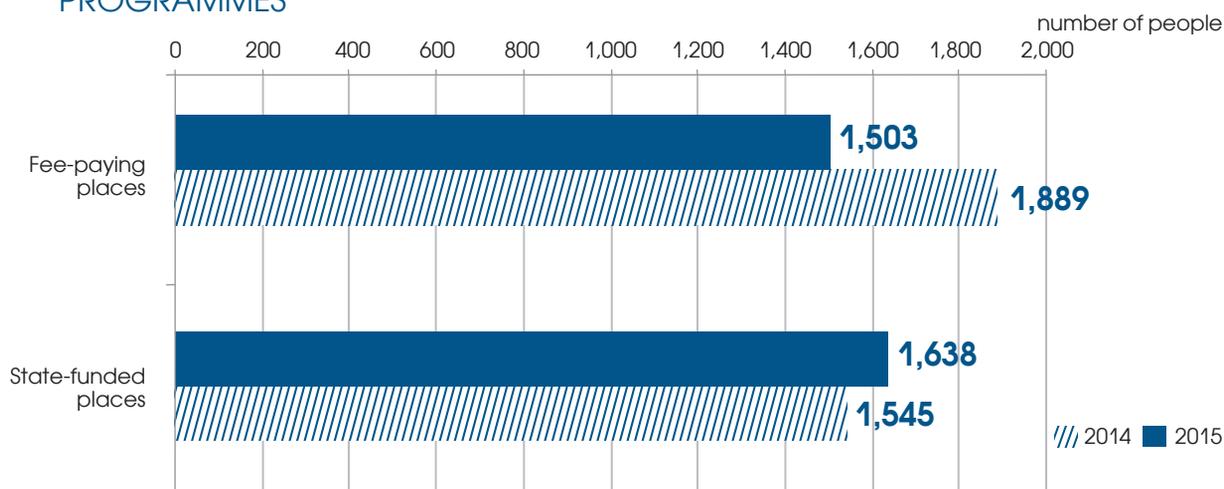
Indicator	2014	2015
<b>Number of graduates:</b>		
matriculated at VSU	287	217
matriculated at other higher educational institutions in Voronezh	213	124
matriculated at higher educational institutions in other cities	58	72
matriculated at higher educational institutions in other cities	8	4
<b>Results of matriculation at higher educational institutions:</b>		
total number of students matriculated at higher educational institutions	279	200
percentage wise	97.2	92.2

### 4.3. MAIN RESULTS OF THE 2015 ADMISSION CAMPAIGN

In 2015, Voronezh State University was allocated a record number of admission quotas for bachelor's, diploma, and master's degree programmes – 2,514 state-funded places, which exceeded the 2014 rate by 18.5%. Among the various degree levels, the accession rate was distributed the following way: +5.4% within the bachelor's degree programmes, +5.6% within the diploma degree programmes, and +61.1% within the master's degree programmes (see Figure 4.2).

Figure 4.2

#### DYNAMICS OF THE ADMISSION TO BACHELOR'S AND DIPLOMA DEGREE PROGRAMMES



In spite of the difficult demographic situation, it was possible not only to avoid lowering the aggregate admission rate compared with the fee-paying places of the previous year, but also to exceed it by 4.5%. This was due to the combined group of diploma and bachelor's degree course graduates admitted in 2010 and 2011 and enrolled on master's degree courses to continue their education (see Figure 4.3). The 2015 admission rate to master's degree programmes was a record one for VSU: 1,598 students (including 786 students with fee-paying places) compared to 806 in 2014 (including 302 students with fee-paying places).

Figure 4.3

#### DYNAMICS OF THE ADMISSION TO MASTER'S DEGREE PROGRAMMES

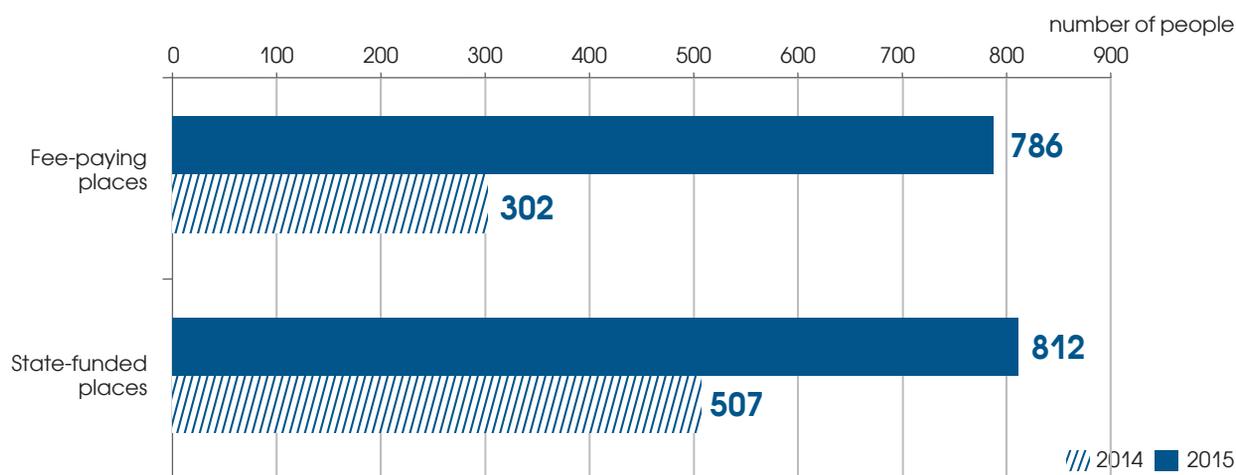
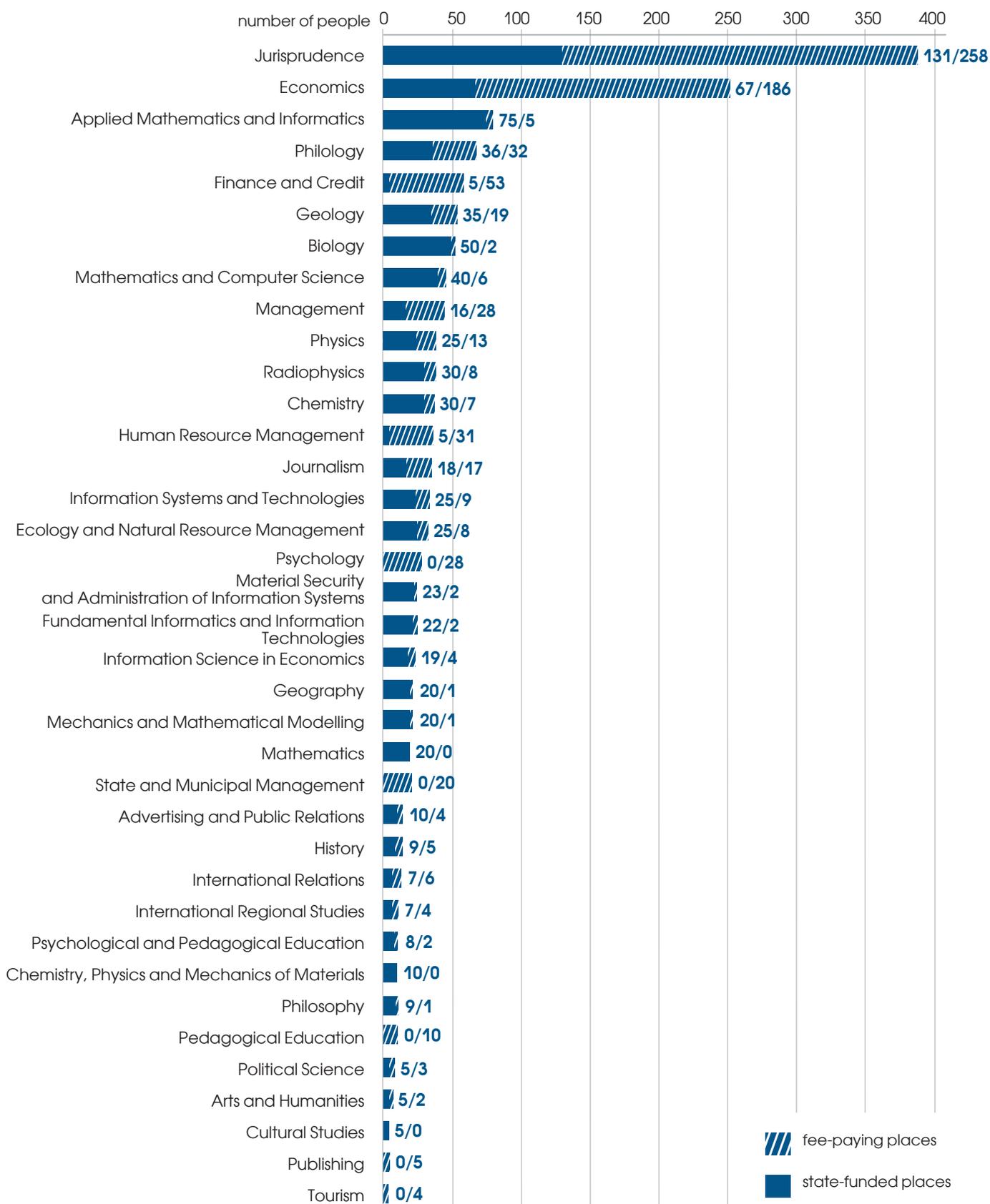




Figure 4.4 shows the structure of admissions to master's degree programmes in 2015 according to specialities and modes of study.

Figure 4.4

### STRUCTURE OF THE 2015 ADMISSION TO MASTER'S DEGREE PROGRAMMES ACCORDING TO SPECIALITIES AND MODES OF STUDY



Master's degree programmes implemented at VSU in the current academic year are shown in Table 4.3.

Table 4.3

### MASTER'S DEGREE PROGRAMMES IMPLEMENTED IN 2015

Specialities	Programmes
<b>THE FACULTY OF BIOLOGY AND SOIL SCIENCES</b>	
06.04.01 – Biology	Biodiversity of Fauna and Methods of its Conservation Botany Biophysics Biochemistry Biomedical Sciences Human and Animal Physiology Ecology Genetics
05.04.06 – Ecology and Natural Resource Management	Ecological Management Ecological Safety
<b>THE FACULTY OF GEOGRAPHY, GEOECOLOGY, AND TOURISM</b>	
05.04.02 – Geography	Landscape Studies and Landscape Design Social and Economic Geography
05.04.06 – Ecology and Natural Resource Management	Ecological Monitoring and Audit Ecological Monitoring and Radiation Safety Natural Resource Management
43.04.02 – Tourism	General Theory of Tourism and Tourist Industry
<b>THE FACULTY OF GEOLOGY</b>	
05.94.01 – Geology	Regional Geology Geological Engineering Oil and Gas Geophysics Ecological Management
<b>THE FACULTY OF JOURNALISM</b>	
42.04.02 – Journalism	Advertising and Public Relations Internet and Mass Media TV and Radio Functioning Process
42.04.01 – Advertising and Public Relations	Advertising and Public Relations in Mass Media Advertising and Public Relations in Tourism
<b>THE FACULTY OF HISTORY</b>	
46.04.01 – History	Archaeology Russian History Modern and Contemporary History of Europe and North America
41.04.04 – Political Science	Contemporary Political Science: Scientific Research and Teaching Management, Analytical and Expert Activity
<b>THE FACULTY OF COMPUTER SCIENCES</b>	
02.04.01 – Mathematics and Computer Science	Computer Mathematics Mathematical and Computer Modelling Informatics (Computer Science) as a Second Competence
09.04.02 – Information Systems and Technologies	Information Systems Analysis and Synthesis Information Systems Security Communication Technologies Information Systems Design Technologies Information Technologies in Management Management in SAP Systems Project and Service Management in Information Technologies Informatics as a Second Competence

Specialities	Programmes
<b>THE FACULTY OF MATHEMATICS</b>	
01.04.01 – Mathematics	Mathematical Modelling Computational Mathematics and Informatics Differential Equations, Dynamical Systems and Optimal Control Substantial, Complex and Functional Analysis
02.04.01 – Mathematics and Computer Science	Mathematical and Computer Modelling Mathematical Basis for Computer Science Mathematical Analysis and its Applications Mathematical Methods in Economics and Finance Mathematical Methods and Computer Technologies in Medicine
<b>THE FACULTY OF INTERNATIONAL RELATIONS</b>	
41.04.05 – International Relations	International Integration and International Organisations
41.04.01 – International Regional Studies	European Studies
38.04.02 – Management	International Business
38.04.01 – Economics	Business in the Emerging Markets
<b>THE FACULTY OF APPLIED MATHEMATICS, INFORMATICS, AND MECHANICS</b>	
02.04.02 – Fundamental Informatics and Information Technologies	Intelligent Information Technologies Computer Science Mobile Application Programming Parallel Programming and Concurrent Computing Management Information Systems
01.04.02 – Applied Mathematics and Informatics	Mathematical Basis for Computer Graphics Numerical Methods Optimisation and Optimal Control Mathematical Modelling Mathematical and Software Support for ECM Parallel Programming and Distributed Computing Operations Research and System Analysis Mathematical and Information Support in Economic Activity
02.04.03 – Mathematical Support and Administration of Information Systems	Information Technologies
01.04.03 – Mechanics and Mathematical Modelling	Applied Mechanics and Computer Modelling
38.04.05 – Business Informatics	Information Business Intelligence
<b>THE FACULTY OF ROMANCE AND GERMANIC PHILOLOGY</b>	
45.04.01 – Philology	Business Communication in Economics: German Philological Support for International Business Communication Translation Studies and Practice Romance Philology International Business Communication and Translation
44.04.01 – Pedagogical Education	Foreign Language Teaching with the Application of Online Technologies

Specialities	Programmes
<b>THE FACULTY OF PHYSICS</b>	
03.04.02 – Physics	Nuclear and Elementary Particle Physics Atomic and Molecular Physics Physics of Ferroelectrics and Dielectrics Physics of Nanosystems Semiconductor Physics and Microelectronics Optics of Nanostructured Materials Medical Physics Optics and Nanophotonics
03.04.03 – Radiophysics	Statistical Radiophysics Computer Methods of Radiophysical Information Processing Computer Radiophysics Information Systems and Processes Microelectronics and Semiconductor Devices
<b>THE FACULTY OF PHYOLOGY</b>	
45.04.01 – Philology	Philological Support for International Relations Psycholinguistics and Forensic Linguistics Slavic Philology Russian as a Foreign Language Practical Philology in the Organisation of Administrative, Cultural and Educational Activity Imagology and Speechwriting Poetics and Structure of Literary Texts Text and Communication Russian Literature in the European Context Cultural Aspects of Russian Literature
50.04.01 – Arts and Humanities	Contemporary Arts and Crafts
<b>THE FACULTY OF PHILOSOPHY AND PSYCHOLOGY</b>	
47.04.01 – Philosophy	Ontology and Epistemology
37.04.01 – Psychology	Psychology of Personality Social Psychology Psychological and Psycholinguistic Foundations of Socially Oriented Communication Clinical and Psychological Follow-Up
51.04.01 – Cultural Studies	Social and Cultural Management
44.04.02 – Psychological and Pedagogical Education	Educational Psychology Psychology and Pedagogy of Creative Activity
<b>THE FACULTY OF CHEMISTRY</b>	
04.04.01 – Chemistry	Environmental Chemistry, Chemical Expertise and Ecoanalytical Chemistry Analytical Chemistry Organic Chemistry Radiochemistry Inorganic Chemistry Physical Chemistry Electrochemistry Chemistry of Natural Compounds
04.04.02 – Chemistry, Physics and Mechanics of Materials	Chemistry, Physics and Mechanics of Function Materials

Specialities	Programmes
<b>THE FACULTY OF ECONOMICS</b>	
38.04.01 – Economics	Diagnostics of Business Processes and Corporate Reporting Quantitative Analysis of Financial Markets Corporate Accounting, Financial, and Investment Analysis International Audit Accounting, Audit and International Law Accounting, Analysis and Audit Financial Analyst: Investments, Credit Standing, and Risks Economics and Entrepreneurship Economics and E-Commerce Economics of Organisations and Markets Labour Economics Economics of the Firm
38.04.02 – Management	Analysis, Regulation and Control of the Antimonopoly Activity Accounting and Audit IT Management General and Strategic Management Marketing Management Economics and Management of the Firm
38.04.08 – Finance and Credit	Financial Management Banks and Banking
38.04.04 – State and Municipal Administration	Administration of the Territory's Social and Economic Development
38.04.03 – Human Resource Management	Human Resources Management
<b>THE FACULTY OF LAW</b>	
40.04.01 – Jurisprudence	State and Municipal Administration Contract Law Protection of Human Rights and Freedoms Protection of Social and Labour Rights Environmental and Land Law Commercial Organisations in Civil Circulation International and European Law International Law and Business Taxation and Civil Legislation Organisation of Judicial Power and Law Enforcement Activities Judicial Support for IT Development and Information Security Implementation of Constitutional Legislation in Social and Economic Areas Judicial and Non-Judicial Forms of Civil Rights Protection Theory and History of State and Law Criminal Law, Criminology, Criminal and Penal Law Criminal Procedure, Criminalistics and Operational Investigations Financial and Tax Law

In 2015, apart from higher professional education programmes, admissions were held within fee-paying secondary vocational education programmes (see Table 4.4).

Table 4.4

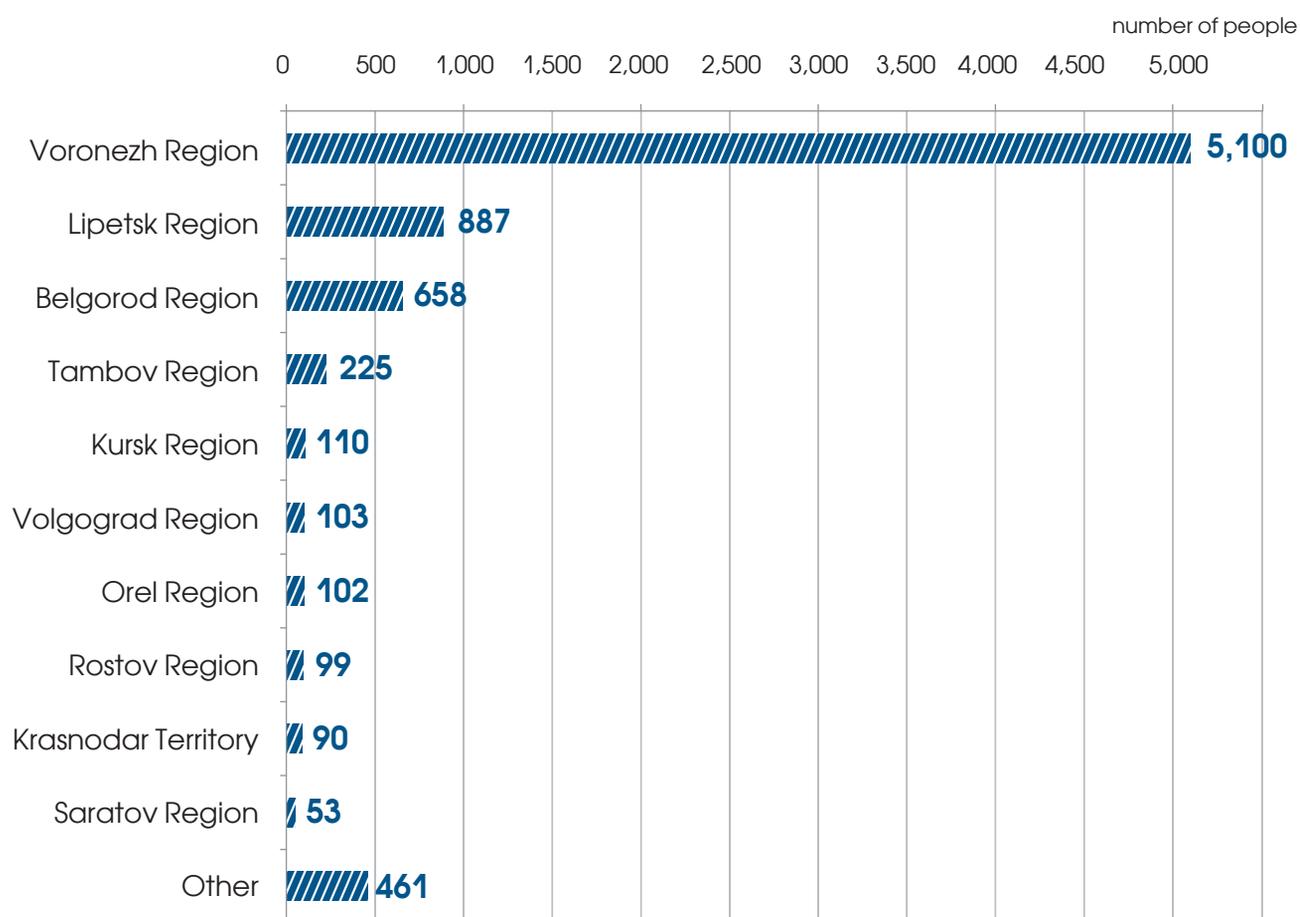
#### ADMISSION TO SECONDARY VOCATIONAL EDUCATION PROGRAMMES

Speciality	Number of enrolled students
33.02.01 – Pharmacy	24
38.02.01 – Economics and Accounting (area-based)	33
42.02.01 – Advertising	37
43.02.10 – Tourism	28
<b>Total</b>	<b>122</b>

In 2015, the geographical origins of University entrants was quite broad – applicants from 76 subjects of the Russian Federation filed their documents with VSU (see Figure 4.5).

Figure 4.5

#### DISTRIBUTION OF STUDENTS ADMITTED TO VSU ACCORDING TO SUBJECTS OF THE RUSSIAN FEDERATION

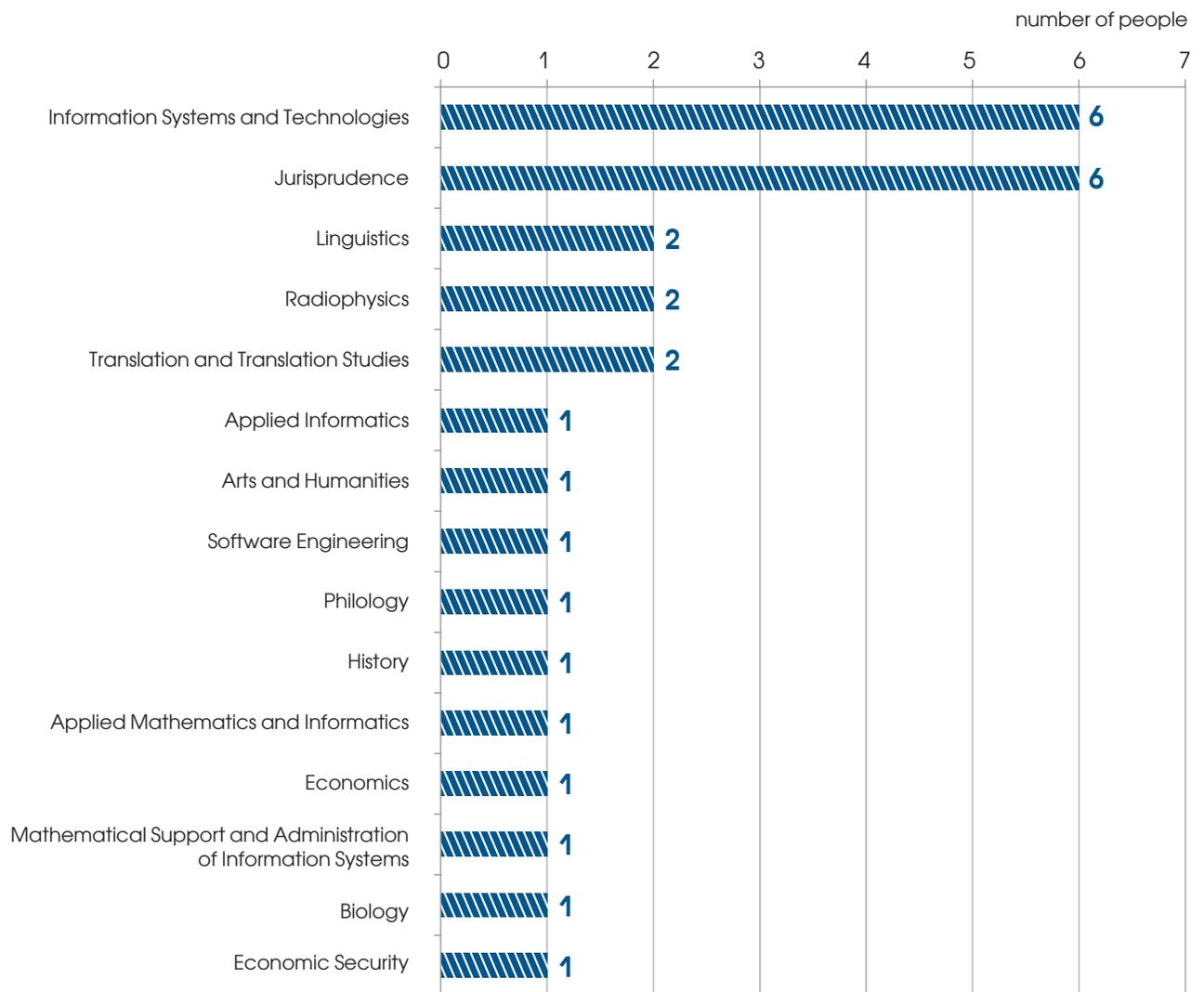


# 4

In 2015, 28 winners and awardees of academic contests held among schoolchildren were enrolled at VSU. Their specialities were distributed as follows (see Figure 4.6).

Figure 4.6

## DISTRIBUTION OF THE ACADEMIC CONTEST WINNERS AND AWARDEES ADMITTED TO VSU ACCORDING TO THEIR SPECIALITIES

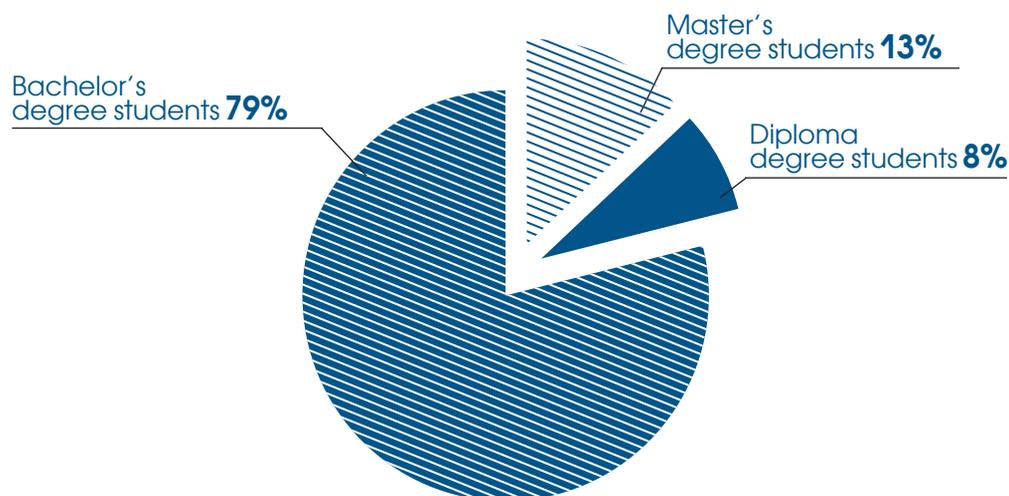




Due to a record number of students being admitted to master's degree programmes, and the implementation of diploma degree programmes for a full-time mode of study within the Federal State Educational Standards of the second generation was finished, the structure of the modified contingent considerably changed. In 2014, the number of bachelor's degree students amounted to 74%, diploma degree students – 18%, and master's degree students – 8%, whereas in 2015 this proportion changed (see Figure 4.7).

Figure 4.7

## STRUCTURE OF THE MODIFIED CONTINGENT IN 2015

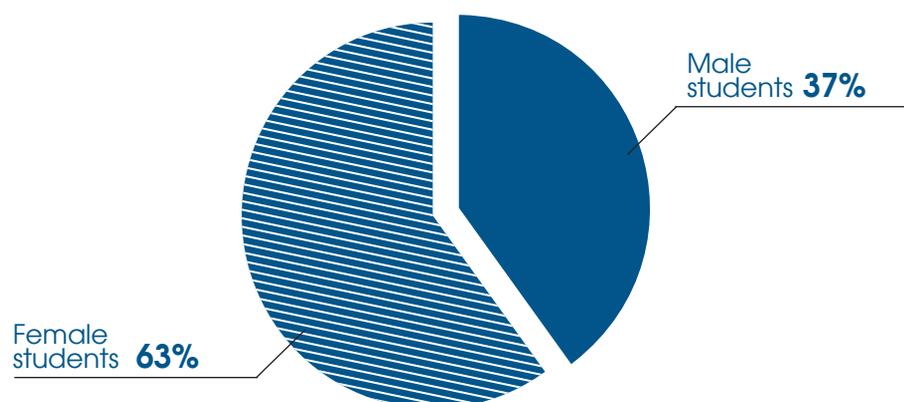


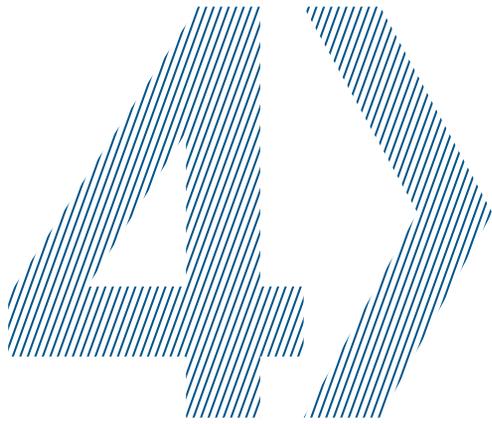
In 2015, the aggregate (modified) contingent of students within higher professional education programmes totalled almost 14 thousand including 10,234 bachelor's degree students, 1,049 diploma degree students, 1,684 master's degree students, and 600 postgraduate students.

The gender composition of VSU students within bachelor's, diploma and master's degree programmes is now as follows (see Figure 4.8).

Figure 4.8

## GENDER COMPOSITION OF STUDENTS WITHIN BACHELOR'S, DIPLOMA, AND MASTER'S DEGREE PROGRAMMES





#### **4.4. TRAINING THE TOP-QUALIFIED ACADEMIC STAFF – POSTGRADUATE DEGREE COURSES AND INTERNSHIP**

In 2015, the main objectives in the field of training the top-qualified academic staff included:

- An increase in quality control of dissertation research in terms of plagiarism.
- A rise in performance indicators for the postgraduate degree programmes by means of increasing the percentage of dissertations defended at the stated time.
- Development of the network of University dissertation committees.

In 2015, VSU postgraduate students were trained within 17 accredited research areas and 81 accredited fields of study.

##### **UNIVERSITY POSTGRADUATE RESEARCH AREAS**

- 01.00.00** – Mathematics and Mechanics
- 03.00.00** – Physics and Astronomy
- 04.00.00** – Chemistry
- 05.00.00** – Geosciences
- 06.00.00** – Biological Sciences
- 09.00.00** – Informatics and Computer Facilities
- 11.00.00** – Electronics, Radioengineering, and Communication Systems
- 33.00.00** – Pharmacy
- 37.00.00** – Psychological Sciences
- 38.00.00** – Economics and Management
- 40.00.00** – Jurisprudence
- 41.00.00** – Political Sciences and Regional Studies
- 44.00.00** – Education and Pedagogical Sciences
- 45.00.00** – Linguistics and Literary Studies
- 46.00.00** – History and Archaeology
- 47.00.00** – Philosophy, Ethics, and Religion Studies
- 51.00.00** – Culture Studies and Sociocultural Projects

Since 2015, postgraduate student training has been conducted in accordance with the Federal State Educational Standards based on the educational programmes developed and approved by the University.

As of 1 January 2016, the number of postgraduate students amounted to 654 including 582 full-time students (see Table 4.5).

In 2015, postgraduate students were enrolled on degree courses in accordance with the admission quotas for postgraduate degree programmes approved by the Order of the Ministry of Education and Science of the Russian Federation (see Table 4.6).

181 students were enrolled on postgraduate degree courses including 106 citizens of the Russian Federation, 11 CIS citizens, and 8 foreign citizens with state-funded places, as well as 51 citizens of the Russian Federation and 5 foreign citizens with fee-paying places.

Table 4.5

#### NUMBER OF POSTGRADUATE STUDENTS ACCORDING TO RESEARCH AREAS AND FIELDS OF STUDY AS OF 1 JANUARY 2016

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students			
		Total	Including		
			RF citizens	CIS citizens	foreign citizens
	<b>Total</b>	<b>654</b>	<b>582</b>	<b>17</b>	<b>55</b>
<b>01.06.01</b>	<b>Mathematics and Mechanics</b>	<b>42</b>	<b>42</b>	<b>0</b>	<b>0</b>
01.01.01	Substantial, Complex and Functional Analysis	9	9	0	0
01.01.02	Differential Equations, Dynamical Systems and Optimal Control	22	22	0	0
01.02.04	Solid Mechanics	11	11	0	0
<b>03.06.01</b>	<b>Physics and Astronomy</b>	<b>57</b>	<b>55</b>	<b>0</b>	<b>2</b>
01.04.02	Theoretical Physics	6	6	0	0
01.04.03	Radiophysics	23	22	0	1
01.04.05	Optics	7	7	0	0
01.04.07	Condensed Matter Physics	8	7	0	1
01.04.10	Semiconductor Physics	13	13	0	0
<b>04.06.01</b>	<b>Chemical Sciences</b>	<b>50</b>	<b>48</b>	<b>0</b>	<b>2</b>
02.00.01	Inorganic Chemistry	7	7	0	0
02.00.02	Analytical Chemistry	6	5	0	1
02.00.03	Organic Chemistry	8	8	0	0
02.00.04	Physical Chemistry	11	11	0	0
02.00.05	Electrochemistry	8	7	0	1
02.00.06	High-Molecular Compositions	6	6	0	0
02.00.11	Colloid Chemistry	1	1	0	0
02.00.21	Solid State Chemistry	3	3	0	0
<b>05.06.01</b>	<b>Geosciences</b>	<b>36</b>	<b>36</b>	<b>0</b>	<b>0</b>
25.00.01	General and Regional Geology	3	3	0	0
25.00.02	Palaeontology and Stratigraphy	0	0	0	0
25.00.04	Petrology, Volcanology	1	1	0	0
25.00.06	Lithology	0	0	0	0
25.00.07	Geohydrology	1	1	0	0
25.00.08	Geological Engineering, Permafrostology and Soil Science	0	0	0	0

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students			
		Total	Including		
			RF citizens	CIS citizens	foreign citizens
25.00.10	Geophysics, Geophysical Methods in Mineral Deposit Exploration	2	2	0	0
25.00.11	Geology, Solid Mineral Deposit Exploration, Minerageny	9	9	0	0
25.00.23	Physical Geography and Biogeography, Soil Geography and Landscape Geochemistry	2	2	0	0
25.00.24	Economic, Social, Political and Recreational Geography	1	1	0	0
25.00.36	Geoecology (Geological, Mineralogical and Geographical Sciences)	17	17	0	0
<b>06.06.01</b>	<b>Biological Sciences</b>	<b>73</b>	<b>68</b>	<b>0</b>	<b>5</b>
03.01.02	Biophysics	12	12	0	0
03.01.04	Biochemistry	21	17	0	4
03.01.05	Phytophysiology and Phytochemistry	0	0	0	0
03.02.01	Botany	4	4	0	0
03.02.04	Zoology	1	1	0	0
03.02.05	Entomology	1	1	0	0
03.02.07	Genetics	14	13	0	1
03.02.08	Ecology	18	18	0	0
03.02.13	Soil Studies	2	2	0	0
<b>09.06.01</b>	<b>Informatics and Computer Facilities</b>	<b>72</b>	<b>65</b>	<b>0</b>	<b>7</b>
05.13.01	System Analysis, Management and Processing of Information (area-based)	4	4	0	0
05.13.10	Management in Social and Economic Systems	2	2	0	0
05.13.17	Theoretical Foundations of Informatics	33	32	0	1
05.13.18	Mathematical Modelling, Numerical Methods Program Systems	33	27	0	6
<b>11.06.01</b>	<b>Electronics, Radioengineering and Communication Systems</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>0</b>
05.27.01	Solid-State Electronics, Radioelectronic Components, Microelectronics, Nanoelectronics, Quantum Effect Devices	6	6	0	0
<b>33.06.01</b>	<b>Pharmacy</b>	<b>8</b>	<b>6</b>	<b>0</b>	<b>2</b>
14.03.06	Pharmacology, Clinical Pharmacology	1	1	0	0
14.04.02	Pharmaceutical Chemistry, Pharmacognosy	5	4	0	1
14.04.03	Pharmacy Business Organisation	2	1	0	1
<b>37.06.01</b>	<b>Psychological Sciences</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>
19.00.07	Pedagogical Psychology	5	5	0	0
<b>38.06.01</b>	<b>Economics</b>	<b>64</b>	<b>54</b>	<b>2</b>	<b>8</b>
08.00.01	Economics Theory	9	8	0	1
08.00.05	Economics and National Economy Management (by fields and areas of activity)	27	23	1	3
08.00.10	Finance, Currency Circulation and Credit	4	3	0	1
08.00.12	Accounting, Statistics	17	13	1	3
08.00.13	Mathematical and Instrumental Methods in Economics	7	7	0	0
<b>40.06.01</b>	<b>Jurisprudence</b>	<b>75</b>	<b>67</b>	<b>3</b>	<b>5</b>
12.00.01	Theory and History of State and Law, History of State and Law Studies	4	4	0	0

End of table 4.5

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students			
		Total	Including		
			RF citizens	CIS citizens	foreign citizens
12.00.02	Constitutional Law, Constitutional Procedure, Municipal Law	6	5	1	0
12.00.04	Finance Law, Tax Law, Budget Law	3	3	0	0
12.00.05	Labour Law, Social Security Law	0	0	0	0
12.00.08	Criminal Law and Criminology, Criminal and Penal Law	7	7	0	0
12.00.09	Criminal Procedure	8	7	1	0
12.00.10	International and European Law	1	0	0	1
12.00.12	Criminalistics, Operational Investigations, Judicial and Expert Activity	3	3	0	0
12.00.14	Administrative Law, Administrative Procedure	29	27	1	1
12.00.15	Civil Procedure, Arbitral Procedure	14	11	0	3
<b>41.06.01</b>	<b>Political Sciences and Regional Studies</b>	<b>14</b>	<b>10</b>	<b>0</b>	<b>4</b>
23.00.02	Political Institutions, Processes and Technologies	14	10	0	4
<b>44.06.01</b>	<b>Education and Pedagogical Sciences</b>	<b>11</b>	<b>11</b>	<b>0</b>	<b>0</b>
13.00.01	General Pedagogics, History of Pedagogics and Education	11	11	0	0
<b>46.06.01</b>	<b>Historical Sciences and Archaeology</b>	<b>24</b>	<b>23</b>	<b>0</b>	<b>1</b>
07.00.02	Russian History	10	10	0	0
07.00.03	General History (of a particular period)	7	7	0	0
07.00.06	Archaeology	6	5	0	1
07.00.09	Historiography, Source Studies and Methods of Historical Research	1	1	0	0
<b>47.06.01</b>	<b>Philosophy, Ethics and Religion Studies</b>	<b>11</b>	<b>11</b>	<b>0</b>	<b>0</b>
09.00.01	Ontology and Epistemology	4	4	0	0
09.00.05	Ethics	3	3	0	0
09.00.08	Philosophy of Science and Technology	0	0	0	0
09.00.11	Social Philosophy	4	4	0	0
<b>45.06.01</b>	<b>Linguistics and Literary Studies</b>	<b>99</b>	<b>69</b>	<b>11</b>	<b>19</b>
10.01.01	Russian Literature	18	17	1	0
10.01.03	International Literature (specifying the literature)	4	4	0	0
10.01.10	Journalism	19	10	3	6
10.02.01	Russian Language	28	17	0	11
10.02.03	Slavic Languages	0	0	0	0
10.02.04	Germanic Languages	8	5	3	0
10.02.05	Romance Languages	9	5	3	1
10.02.19	Linguistic Theory	13	11	1	1
10.02.20	Comparative, Typological and Contrastive Linguistics	0	0	0	0
<b>51.06.01</b>	<b>Cultural Studies</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>0</b>
24.00.01	Theory and History of Culture	7	6	1	0

Table 4.6

## ADMISSION OF POSTGRADUATE STUDENTS ACCORDING TO RESEARCH AREAS AND FIELDS OF STUDY IN 2015

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students enrolled in 2015			
		Total	Including		
			RF citizens	CIS citizens	foreign citizens
	<b>Total</b>	<b>181</b>	<b>157</b>	<b>11</b>	<b>13</b>
<b>01.06.01</b>	<b>Mathematics and Mechanics</b>	<b>12</b>	<b>12</b>	<b>0</b>	<b>0</b>
01.01.01	Substantial, Complex and Functional Analysis	3	3	0	0
01.01.02	Differential Equations, Dynamical Systems and Optimal Control	8	8	0	0
01.02.04	Solid Mechanics	1	1	0	0
<b>03.06.01</b>	<b>Physics and Astronomy</b>	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
01.04.02	Theoretical Physics	2	2	0	0
01.04.03	Radiophysics	4	4	0	0
01.04.05	Optics	2	2	0	0
01.04.07	Condensed Matter Physics	2	2	0	0
01.04.10	Semiconductor Physics	5	5	0	0
<b>04.06.01</b>	<b>Chemical Sciences</b>	<b>10</b>	<b>9</b>	<b>0</b>	<b>1</b>
02.00.02	Analytical Chemistry	4	3	0	1
02.00.03	Organic Chemistry	1	1	0	0
02.00.04	Physical Chemistry	2	2	0	0
02.00.05	Electrochemistry	1	1	0	0
02.00.21	Solid State Chemistry	2	2	0	0
<b>05.06.01</b>	<b>Geosciences</b>	<b>11</b>	<b>11</b>	<b>0</b>	<b>0</b>
25.00.01	General and Regional Geology	1	1	0	0
25.00.04	Petrology, Volcanology	1	1	0	0
25.00.11	Geology, Solid Mineral Deposit Exploration, Minerageny	2	2	0	0
25.00.24	Economic, Social, Political and Recreational Geography	1	1	0	0
25.00.36	Geoecology (area-based)	6	6	0	0
<b>06.06.01</b>	<b>Biological Sciences</b>	<b>12</b>	<b>12</b>	<b>0</b>	<b>0</b>
03.01.02	Biophysics	1	1	0	0
03.01.04	Biochemistry	3	3	0	0
03.02.04	Zoology	1	1	0	0
03.02.05	Entomology	1	1	0	0
03.02.07	Genetics	3	3	0	0
03.02.08	Ecology	2	2	0	0
03.02.13	Soil Studies	1	1	0	0
<b>09.06.01</b>	<b>Informatics and Computer Facilities</b>	<b>21</b>	<b>18</b>	<b>0</b>	<b>3</b>
05.13.10	Management in Social and Economic Systems	1	1	0	0
05.13.17	Theoretical Foundations of Informatics	9	9	0	0
05.13.18	Mathematical Modelling, Numerical Methods and Program Systems	11	8	0	3
<b>11.06.01</b>	<b>Electronics, Radioengineering and Communication Systems</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
05.27.01	Solid-state Electronics, Radioelectronic Components, Microelectronics, Nanoelectronics, Quantum Effect Devices	1	1	0	0
<b>33.06.01</b>	<b>Pharmacy</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>
14.04.02	Pharmaceutical Chemistry, Pharmacognosy	2	2	0	0
<b>37.06.01</b>	<b>Psychological Sciences</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
19.00.07	Pedagogical Psychology	1	1	0	0
<b>38.06.01</b>	<b>Economics</b>	<b>20</b>	<b>16</b>	<b>2</b>	<b>2</b>
08.00.01	Economics Theory	2	2	0	0
08.00.05	Economics and National Economy Management (by fields and areas of activity)	9	6	1	2

End of table 4.6

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students enrolled in 2015			
		Total	Including		
			RF citizens	CIS citizens	foreign citizens
08.00.10	Finance, Currency Circulation and Credit	1	1	0	0
08.00.12	Accounting, Statistics	5	4	1	0
08.00.13	Mathematical and Instrumental Methods in Economics	3	3	0	0
<b>40.06.01</b>	<b>Jurisprudence</b>	<b>30</b>	<b>26</b>	<b>1</b>	<b>3</b>
12.00.01	Theory and History of State and Law, History of State and Law Studies	3	3	0	0
12.00.02	Constitutional Law, Constitutional Procedure, Municipal Law	2	1	1	0
12.00.04	Finance Law, Tax Law, Budget Law	1	1	0	0
12.00.08	Criminal Law and Criminology, Criminal and Penal Law	4	4	0	0
12.00.09	Criminal Procedure	3	3	0	0
12.00.12	Criminalistics, Operational Investigations, Judicial and Expert Activity	2	2	0	0
12.00.14	Administrative Law, Administrative Procedure	10	9	0	1
12.00.15	Civil Procedure, Arbitral Procedure	5	3	0	2
<b>41.06.01</b>	<b>Political Sciences and Regional Studies</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>
23.00.02	Political Institutions, Processes and Technologies	4	4	0	0
<b>44.06.01</b>	<b>Education and Pedagogical Sciences</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
13.00.01	General Pedagogics, History of Pedagogics and Education	3	3	0	0
<b>46.06.01</b>	<b>Historical Sciences and Archaeology</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>
07.00.02	Russian History	3	3	0	0
07.00.03	General History (of a particular period)	3	3	0	0
07.00.06	Archaeology	1	1	0	0
<b>47.06.01</b>	<b>Philosophy, Ethics and Religion Studies</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>
09.00.01	Ontology and Epistemology	1	1	0	0
09.00.05	Ethics	1	1	0	0
09.00.11	Social Philosophy	2	2	0	0
<b>45.06.01</b>	<b>Linguistics and Literary Studies</b>	<b>26</b>	<b>14</b>	<b>8</b>	<b>4</b>
10.01.01	Russian Literature	4	3	1	0
10.01.10	Journalism	9	4	3	2
10.02.01	Russian Language	5	3	0	2
10.02.04	Germanic Languages	3	1	2	0
10.02.05	Romance Languages	2	1	1	0
10.02.19	Linguistic Theory	3	2	1	0
<b>51.06.01</b>	<b>Cultural Studies</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>
24.00.01	Theory and History of Culture	2	2	0	0

## INTERNSHIP

University interns are trained within three fields of study in Pharmacy:

- Management and Economics of Pharmacy.
- Pharmaceutical Engineering.
- Pharmaceutical Chemistry and Pharmacognosy.

In 2015, 65 interns were enrolled in state-funded places, and 14 interns in fee-paying places.



## 4.5. INFORMATION ON THE SCHOLARSHIP PROGRAMMES IMPLEMENTED AT VSU

In 2015, the University implemented 21 scholarship programmes (see Table 4.7).

Table 4.7

### TYPES OF UNIVERSITY SCHOLARSHIP PROGRAMMES

Scholarship programme title	Number of scholarships for undergraduate and postgraduate students
<b>Funded from the federal budget</b>	
Scholarship of the President of the Russian Federation	7
Scholarship of the Government of the Russian Federation	14
Scholarship of the President of the Russian Federation in the top-priority fields	10
Scholarship of the Government of the Russian Federation in the top-priority fields	12
Scholarship named after A. I. Solzhenitsyn	1
<b>Funded by the long-term regional target programme "The Development of the Voronezh Region Education in 2011–2015"</b>	
Scholarship of the Government of the Voronezh Region	9
<b>Funded by VSU</b>	
Scholarship of the VSU Academic Council	6
Scholarship named after Professor L. D. Kokorev	2
Scholarship named after Professor G. F. Gorskiy	2
Scholarship named after Professor I. A. Galagan	2
Scholarship named after Professor V. S. Osnovin	2
Scholarship named after Professor M. S. Tochilin	2
Scholarship named after Professor M. A. Levitskaya	2
Scholarship named after Professor V. A. Lisitskiy	1
Scholarship named after Professor G. Ye. Vedel	1
Scholarship named after Professor L. T. Gilyarovskaya	2
Scholarship named after Professor V. N. Eytingon	2
Scholarship named after Professor M. A. Krasnoselskiy	1
Scholarship named after Professor V. I. Sobolev	1
<b>Funded by employers</b>	
Scholarship of the data provider Informsvyaz-Chernozemye	12
Scholarship of the <i>Novolipetsk Steel</i> OAO NLMK	10



## 4.6. SECONDARY VOCATIONAL EDUCATION

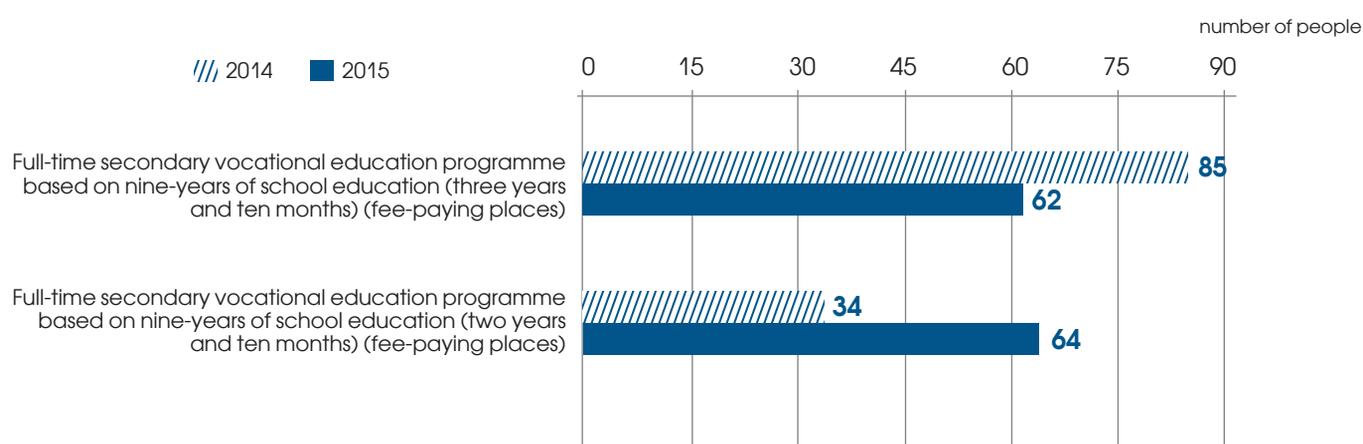
In 2015, an admission campaign for primary-level programmes, designed for secondary vocational education specialists, was conducted within four Federal State Educational Standards and included the following programmes: 33.02.01 – Pharmacy, 38.02.01 – Economics and Accounting (area-based), 42.02.01 – Advertising, and 43.02.10 – Tourism.

The number of students admitted to secondary vocational education programmes lasting three years and ten months amounted to 62 in 2015 and 85 in 2014. The number of students admitted to secondary vocational education programmes lasting two years and ten months amounted to 64 in 2015 and 34 in 2014.

Programmes lasting two years and ten months aroused the greatest interest among university entrants and the number of students enrolled in 2015 doubled in comparison with the 2014 figures. The 2015 decrease in the number of students admitted to programmes lasting three years and ten months was caused by the non-availability of the programme 09.02.03 – Programming in Computer Systems (see Figure 4.9).

Figure 4.9

### DYNAMICS OF THE CHANGES IN THE NUMBER OF STUDENTS ADMITTED TO SECONDARY VOCATIONAL EDUCATION PROGRAMMES IN 2014–2015



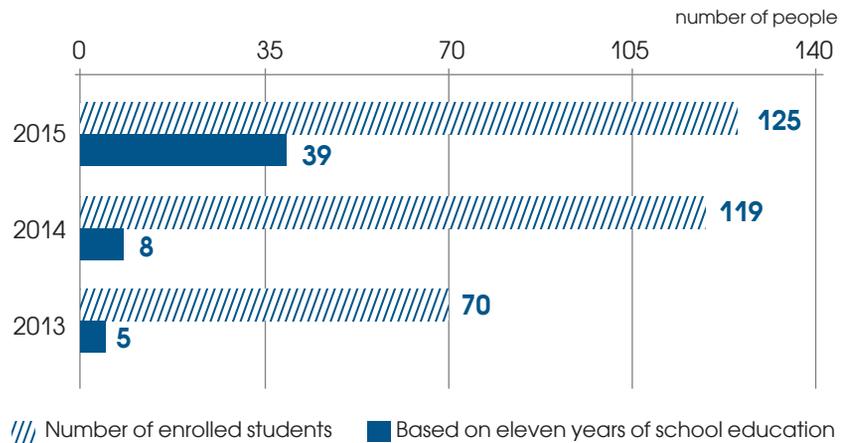
The 2015 admission results demonstrated an equal interest in secondary vocational education programmes among university entrants regardless of the programme duration.

The number of students admitted to secondary vocational education programmes amounted to 125 in 2015, including 39 students with the Certificate of Secondary General Education (based on eleven years of school education), 119 in 2014, including 8 students with eleven-years of school education, and 70 in 2013, including 5 students with eleven-years of school education (see Figure 4.10).



Figure 4.10

DYNAMICS OF THE CHANGES IN THE NUMBER OF STUDENTS WITH ELEVEN-YEAR SCHOOL EDUCATION ADMITTED TO SECONDARY VOCATIONAL EDUCATION PROGRAMMES

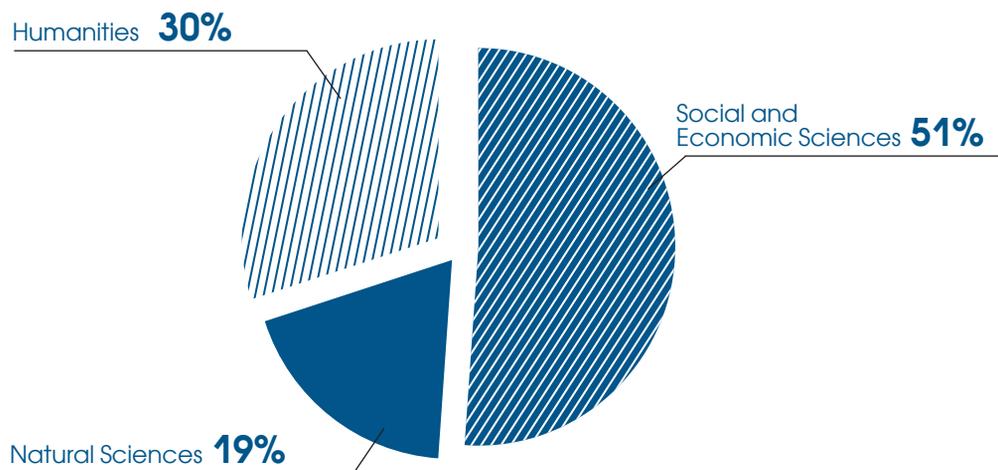


The 2013–2015 admission results indicated a considerable increase in the interest in secondary vocational education programmes among university entrants with the Certificate of Secondary General Education (based on eleven years of school education). In addition, there was some positive dynamics in the admission to secondary vocational education programmes.

The distribution of students admitted to secondary vocational education programmes according to their specialisation was the following: the overwhelming majority of students (51%) chose Social and Economic Sciences, slightly fewer students (30%) chose Humanities, and the rest of the students (19%) chose Natural Sciences (see Figure 4.11).

Figure 4.11

DISTRIBUTION OF STUDENTS ADMITTED TO SECONDARY VOCATIONAL EDUCATION PROGRAMMES IN 2015 ACCORDING TO SPECIALISATIONS





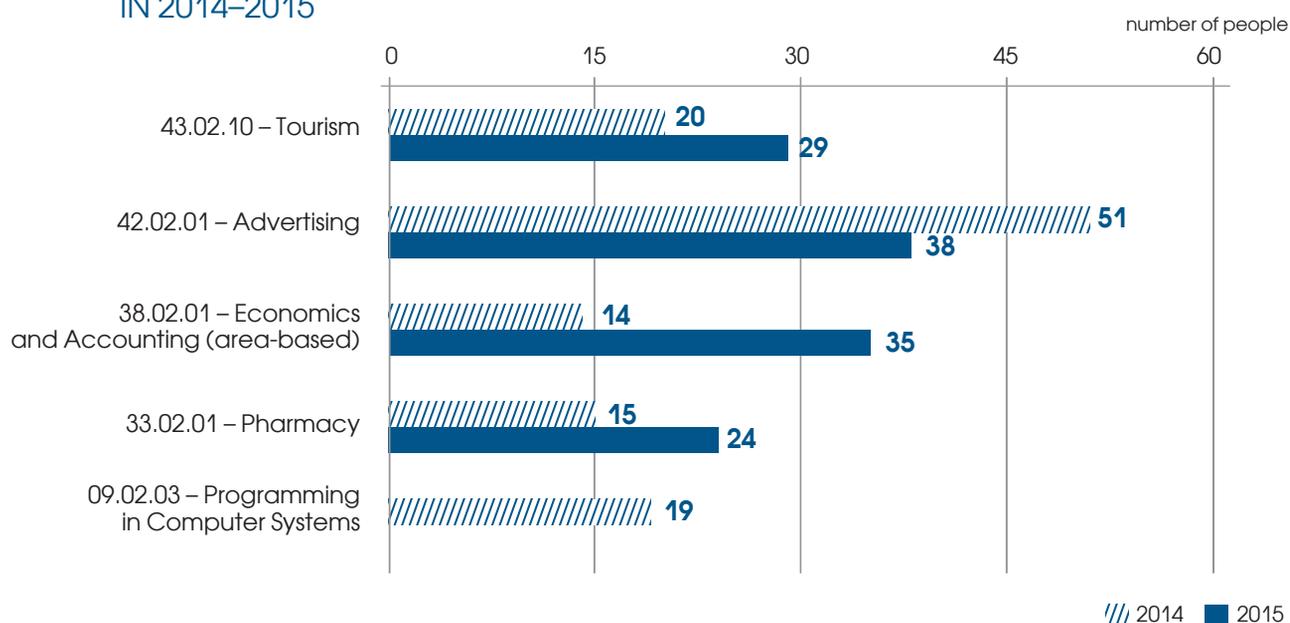
The implementation of six accredited secondary vocational education programmes within the Federal State Educational Standard of the third generation with the further transition to the Federal State Educational Standard of the three-plus generation is currently in progress. These include the following programmes: 09.02.03 – Programming in Computer Systems, 20.02.01 – Sustainable Management of Natural and Economic Complexes, 33.02.01 – Pharmacy, 42.02.01 – Advertising, 38.02.01 – Economics and Accounting (area-based), and 43.02.10 – Tourism.

The fastest-developing programmes are 33.02.01 – Pharmacy and 43.02.10 – Tourism. The admission to the speciality 38.02.01 – Economics and Accounting (area-based) more than doubled. The speciality 42.02.01 – Advertising slightly lost its ground. Still, this speciality has continually demonstrated the best results in the number of students admitted to secondary vocational education programmes.

The dynamics in the development of secondary vocational education programmes is highlighted by the changes in the number of students admitted to the programmes implemented in 2014-2015. The number of students admitted to the speciality Pharmacy amounted to 24 in 2015 and 15 in 2014, Tourism – 29 in 2015 and 20 in 2014, Economics and Accounting (area-based) – 35 in 2015 and 14 in 2014, and Advertising – 38 in 2015 and 51 in 2014. Admission to the speciality Programming in Computer Systems was not available in 2015. In 2014, the number of students admitted to this speciality amounted to 19 (see Figure 4.12).

Figure 4.12

#### DYNAMICS OF THE CHANGES IN THE NUMBER OF STUDENTS ADMITTED TO THE IMPLEMENTED SECONDARY VOCATIONAL EDUCATION PROGRAMMES IN 2014–2015

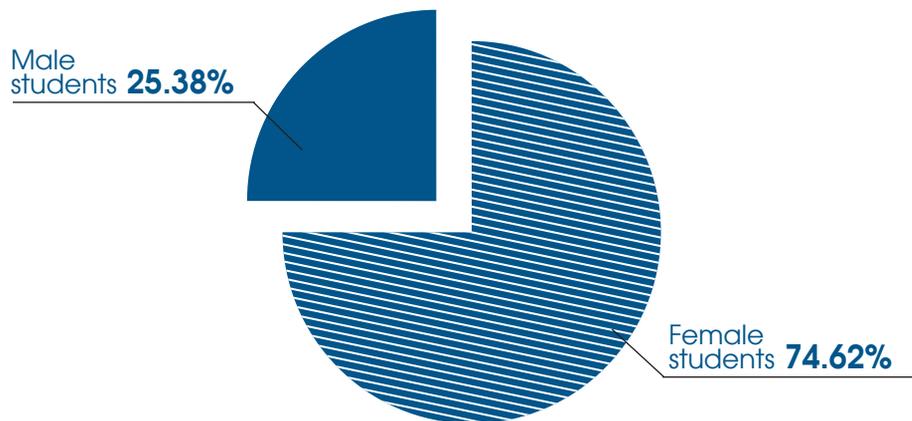


# 4

As of 31 December 2015, the number of secondary vocational education students of all years of study totalled 398. The distribution according to gender was 25.38% of male students and 74.62% of female students (see Figure 4.13).

Figure 4.13

## GENDER COMPOSITION OF SECONDARY VOCATIONAL EDUCATION STUDENTS



All secondary vocational education programmes successfully underwent the state accreditation process.

An educational and methodological framework was developed to comply with the educational standards of the three-plus generation.

A specialised software programme “Secondary Vocational Education Curricula” was purchased to work with the curricular of the secondary vocational education generation.

In order to conduct students training, four agreements were concluded with organisations for an unlimited period and six agreements were concluded for a period of 2 years.



## 4.7. INFORMATION ON THE INNOVATIVE TECHNOLOGIES IN EDUCATION

VSU takes consistent measures to improve the quality of education by developing the independence and creativity of students.

In 2015, the University continued to implement three models of educational technologies based on innovative educational methods:

- Innovative educational technologies within the main educational programmes implemented on site.
- Innovative educational technologies within the main educational programmes implemented via distant-learning.
- E-learning.

The principle forms of innovative educational technologies within the main educational programmes implemented on site include internet-resources, lecture multimedia facilities, computer-based testing, professional simulations, and role-play. Innovative teaching methods were further developed such as:

- Problem, research, and case methods.
- Educational and personal trainings.
- Modular rating technologies in the organisation of the educational process.
- Project-based learning.

In the main educational programmes, innovative teaching methods are implemented within the different modes of study.

### ELECTRONIC TEACHING MATERIALS FOR THE DISCIPLINES OF THE VSU EDUCATIONAL PROGRAMMES

The VSU educational portal “E-University” (URL: [www.moodle.vsu.ru](http://www.moodle.vsu.ru)), created using the e-learning system Moodle, is the VSU e-learning environment which utilizes distant learning technologies to carry out the e-learning process.

23,740 users are now registered on the portal. The faculties have created over 900 e-courses so far, almost 500 of which have been used by students. Figure 4.14 provides information on the dynamics of registration on the e-courses portal (electronic teaching materials) by the University faculties.



Figure 4.14

### DYNAMICS OF E-COURSE REGISTRATION ON THE PORTAL

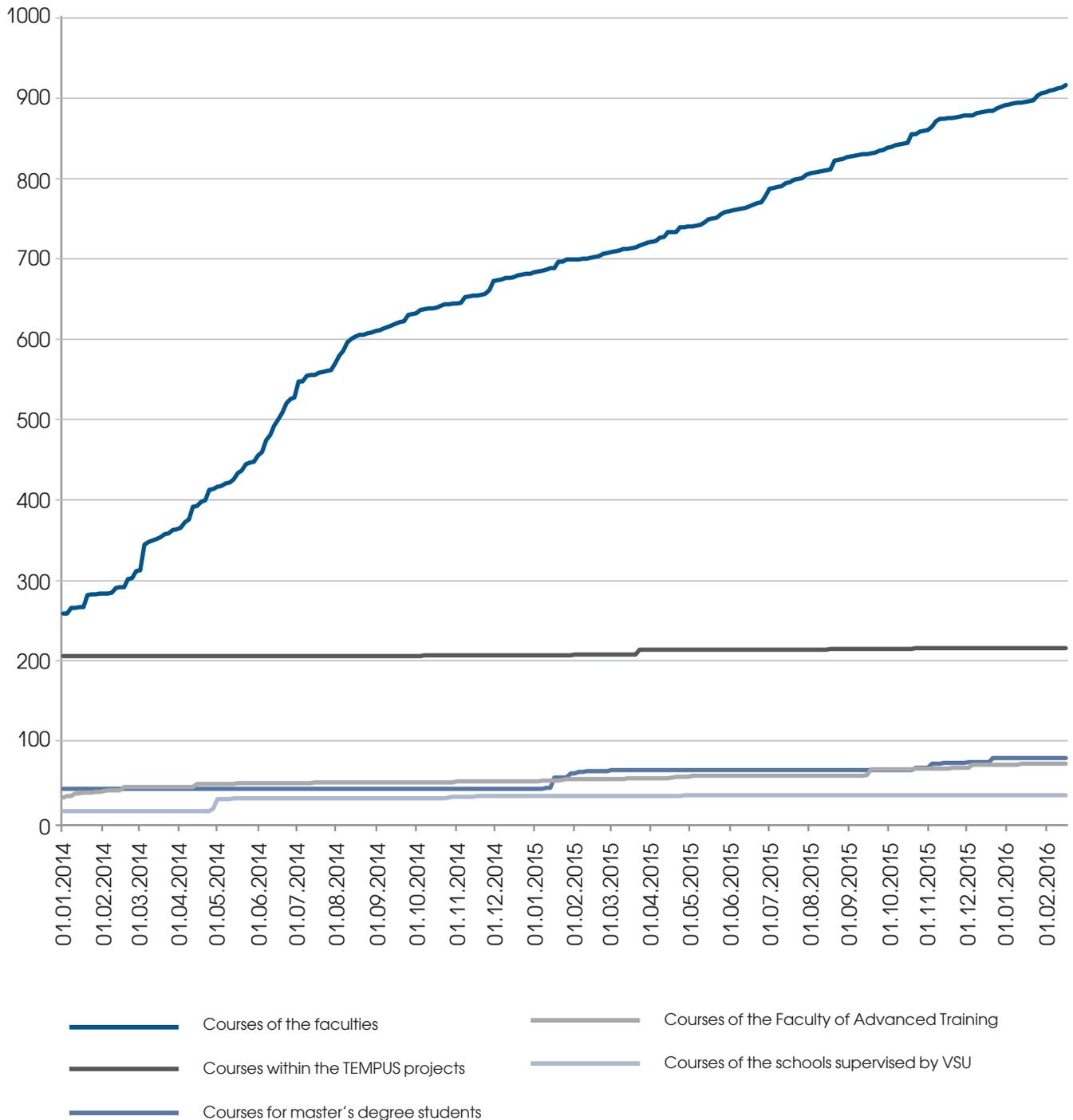
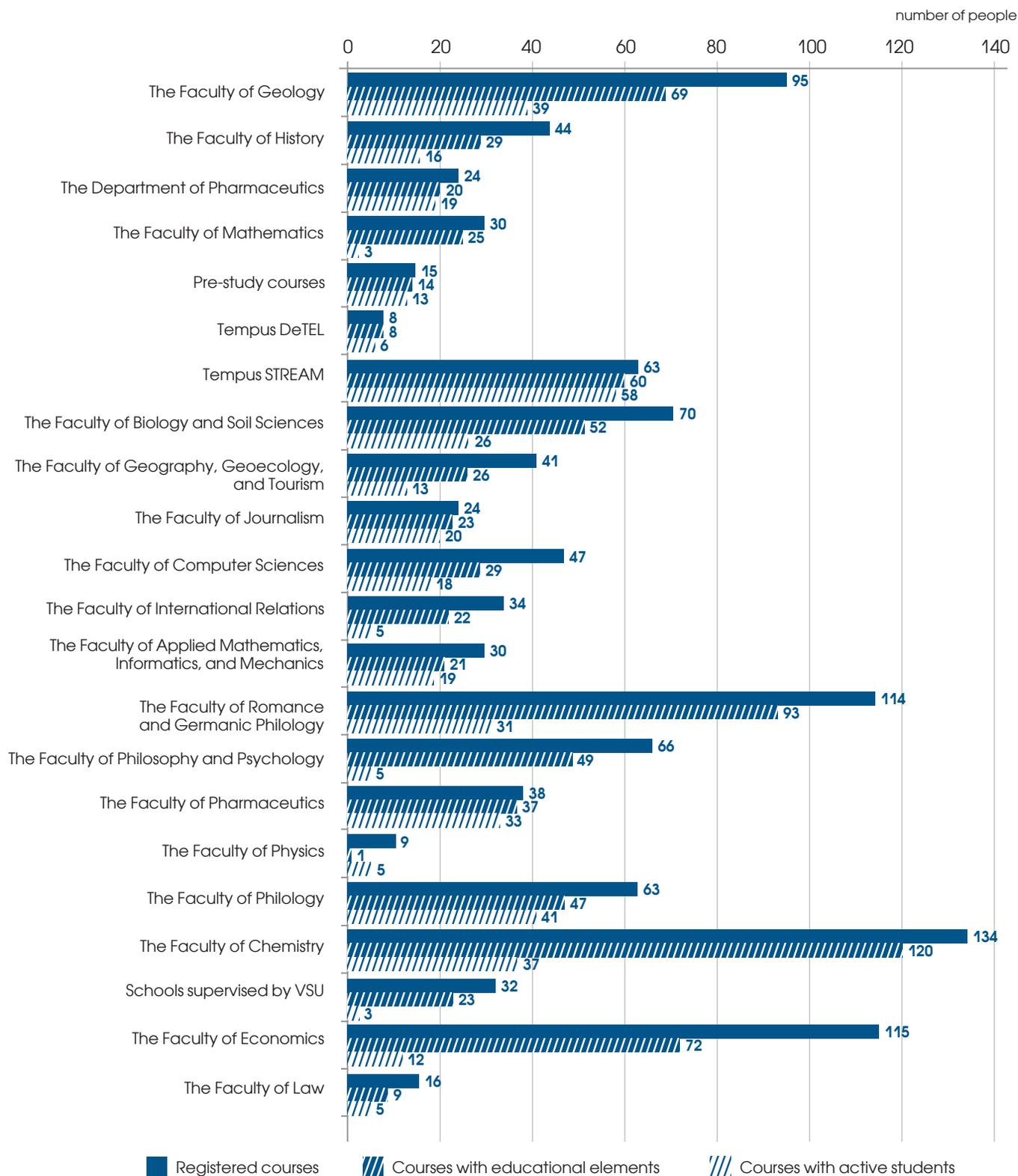




Figure 4.15 provides information on the process of filling the portal with e-courses and the frequency of their use by students according to the University faculties as of 1 January 2016.

Figure 4.15

E-COURSES ON THE PORTAL BY VSU FACULTIES AS OF 1 JANUARY 2016



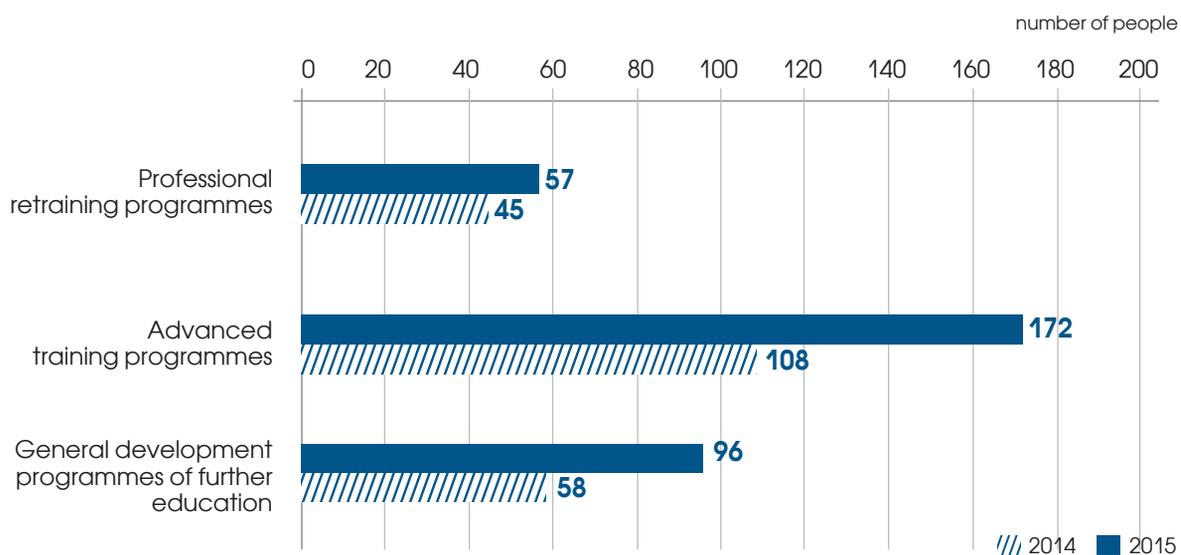


## 4.8. FURTHER EDUCATION

In 2015, there was a steady increase in the number of further education programmes (hereinafter FEP). The total number of programmes amounted to 325, including 57 professional retraining programmes, 172 advanced training programmes, and 96 general development programmes. Figure 4.16 represents FEP quantitative dynamics.

Figure 4.16

### QUANTITATIVE DYNAMICS OF FURTHER EDUCATION PROGRAMMES

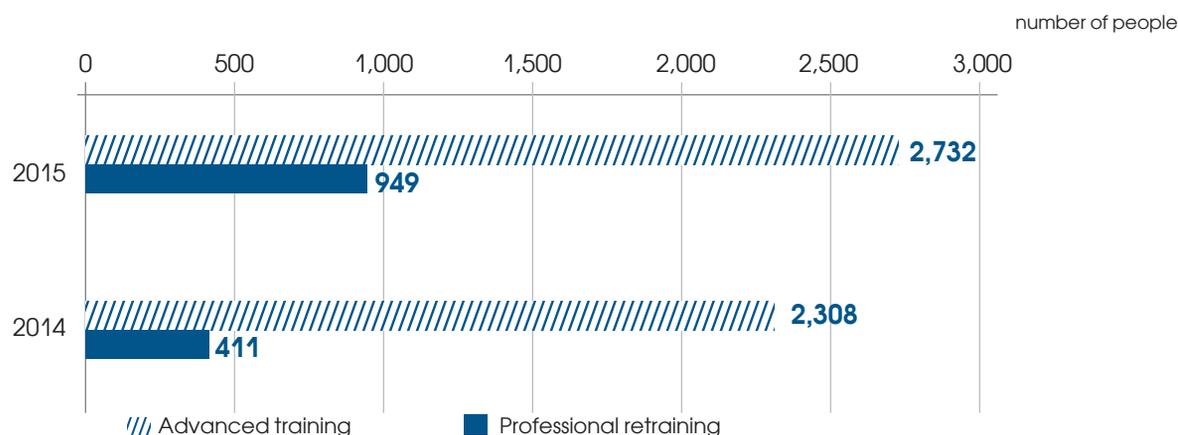


In 2015, 3,681 participants completed their training within further education programmes at Voronezh State University and its branches. 949 of them underwent professional retraining, and 2,732 advanced their qualification.

Figure 4.17 shows the quantitative dynamics of the graduates of further education courses in comparison with 2014.

Figure 4.17

### QUANTITATIVE DYNAMICS OF THE GRADUATES OF FURTHER EDUCATION COURSES





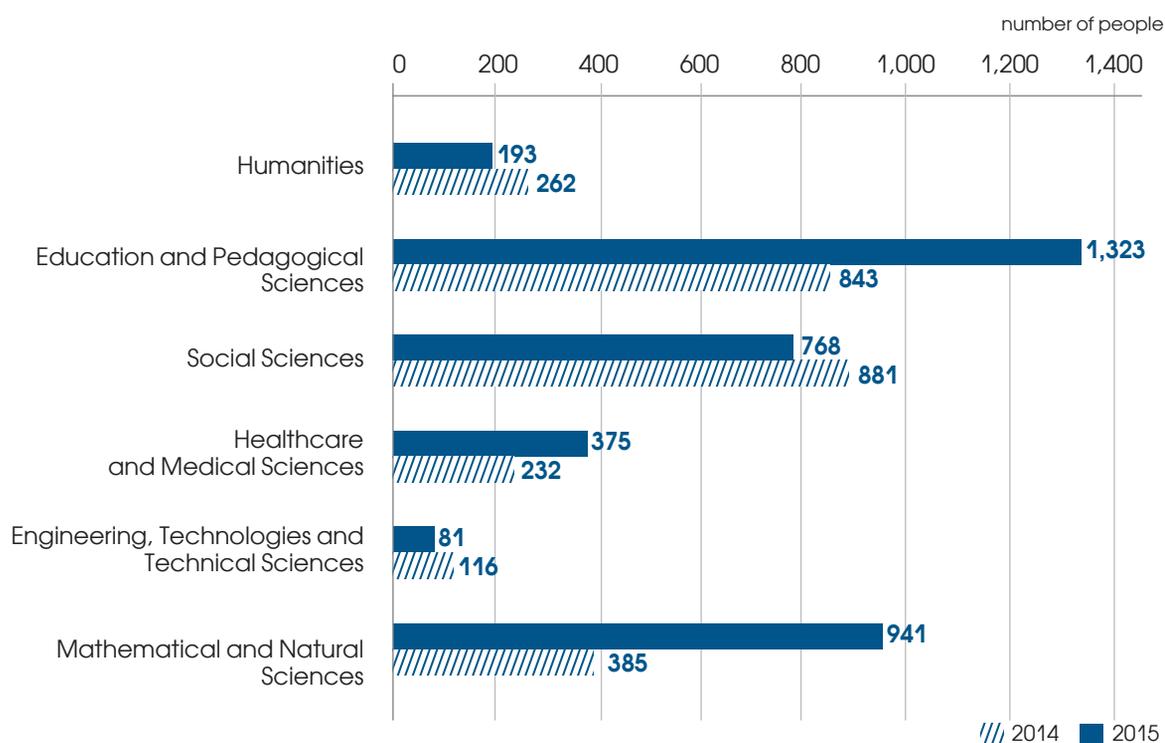
Compared with the previous period, the frequency distribution of students who completed advanced training and professional retraining courses according to the enlarged groups of specialities was as follows:

- 941 students were trained in Mathematical and Natural Sciences.
- 81 in Engineering, Technologies, and Technical Sciences.
- 375 in Healthcare and Medical Sciences.
- 1,323 in Social Sciences.
- 164 in Education and Pedagogical Sciences.
- 193 in Humanities.

This is shown in figure 4.18.

Figure 4.18

#### FREQUENCY DISTRIBUTION OF STUDENTS ACCORDING TO THE ENLARGED GROUPS OF SPECIALITIES

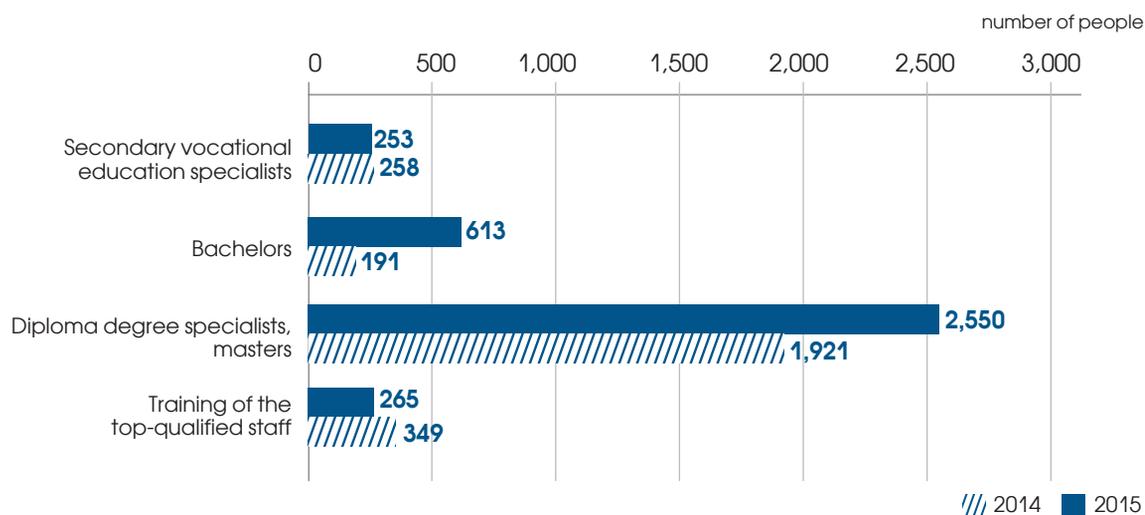


As for degree levels, 253 students with secondary vocational education, 613 students with bachelor's degrees, and 265 students with top qualifications were trained at the University within FEP in 2015. The majority of students within further education programmes were Diploma degree specialists (2,550 people). Figure 4.19 represents the frequency distribution of students according to degree levels in comparison with 2014.



Figure 4.19

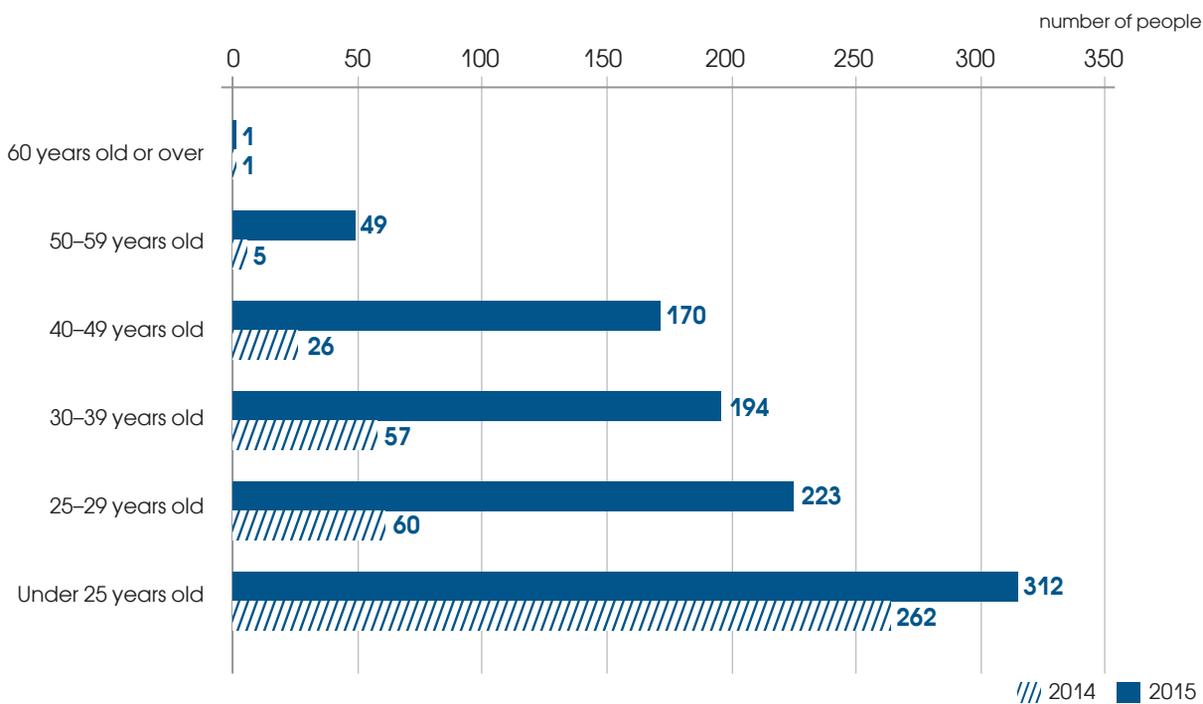
FREQUENCY DISTRIBUTION OF STUDENTS ACCORDING TO DEGREE LEVELS



312 people under 25 years old, 223 people aged 25–29, 194 people aged 30–39, 170 people aged 40–49, 49 people aged 50–59, and 1 person aged 60 or over, took professional retraining programmes implemented at the University (see Figure 4.20).

Figure 4.20

FREQUENCY DISTRIBUTION OF STUDENTS WITHIN PROFESSIONAL RETRAINING PROGRAMMES ACCORDING TO AGE

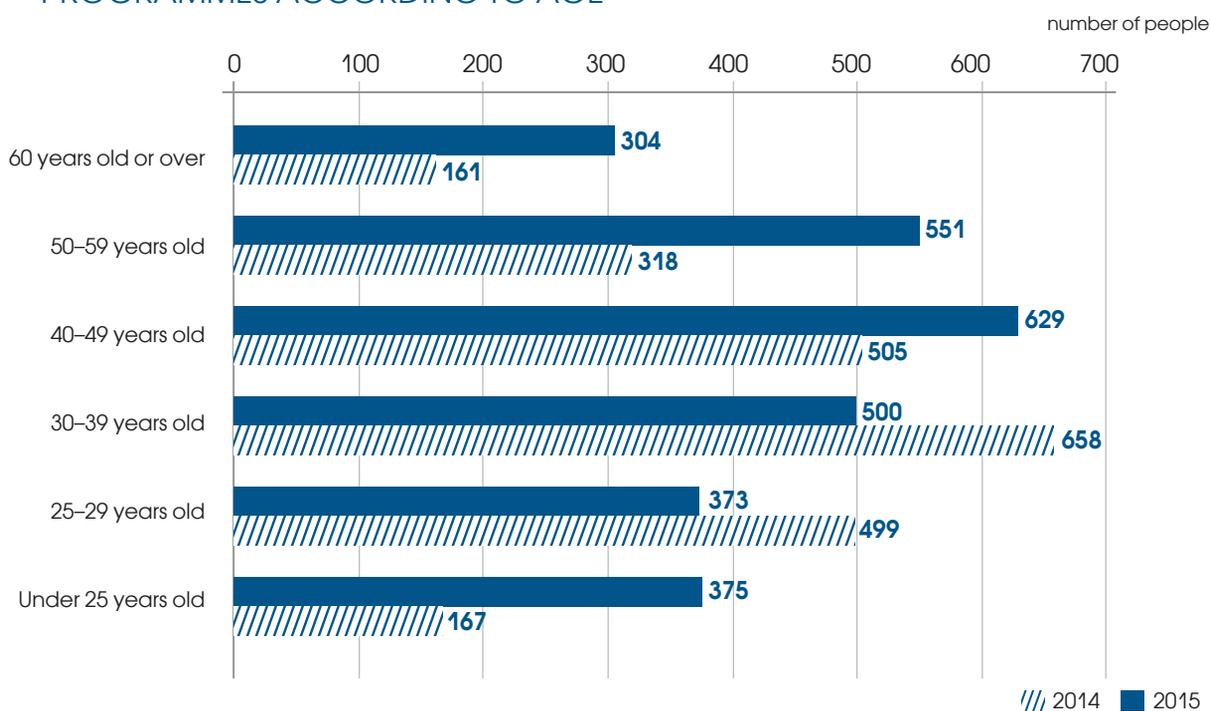




The age composition of the participants within advanced training programmes was as follows: 375 people under 25 years old, 373 people aged 25–29, 500 people aged 30–39, 629 people aged 40–49, 551 people aged 50–59, and 304 people aged 60 or over. Figure 4.21 shows the distribution of students within advanced training programmes according to age.

Figure 4.21

FREQUENCY DISTRIBUTION OF STUDENTS WITHIN ADVANCED TRAINING PROGRAMMES ACCORDING TO AGE

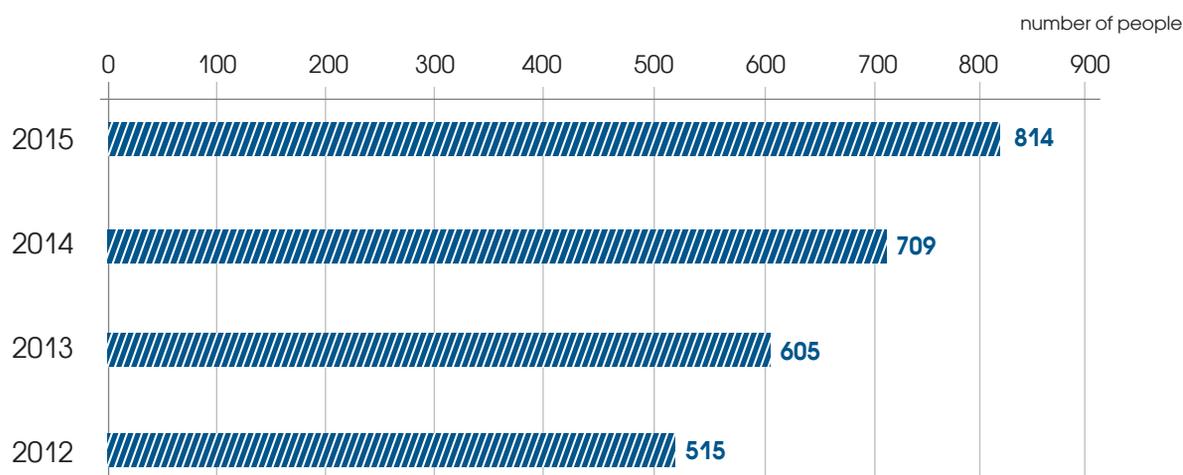


Regional enterprises and organisations are sending more and more employees to take professional retraining and advanced training courses at the University.

In 2015, 814 people were trained at the expense of their employers. In 2014 – 709 people, in 2013 – 605 people, and in 2012 – 515 people (see Figure 4.22).

Figure 4.22

NUMBER OF PARTICIPANTS TRAINED AT THE EXPENSE OF EMPLOYERS



# 4

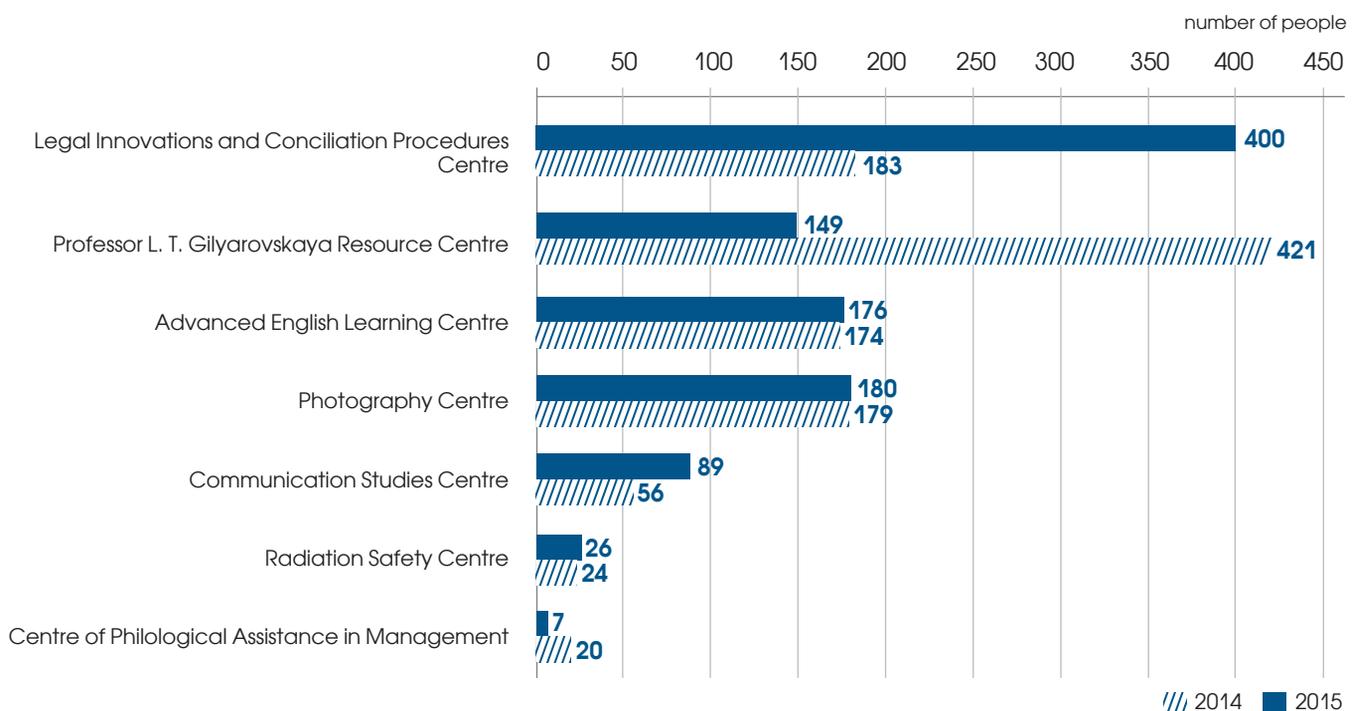
Educational centres efficiently organise the implementation of further education programmes within research areas.

- In the reporting period, 149 participants completed their training at the Professor L. T. Gilyarovskaya Resource Centre.
- 176 at the Centre for the Advanced Learning of Foreign Languages and Cultures.
- 400 at the Legal Innovations and Conciliation Procedures Centre.
- 89 at the Communication Studies Centre.
- 180 at the Photography Centre.
- 7 at the Centre of Philological Assistance in Management.
- 26 at the Radiation Safety Centre.

Figure 4.23 shows the number studying at further education centres in comparison with 2014.

Figure 4.23

## NUMBER OF STUDENTS AT FURTHER EDUCATION CENTRES





Programmes for the advanced training of public servants were in great demand in 2015. 162 experts and senior officials working for public authorities completed their training within the following programmes designed by the Legal Innovations and Conciliation Procedures Centre:

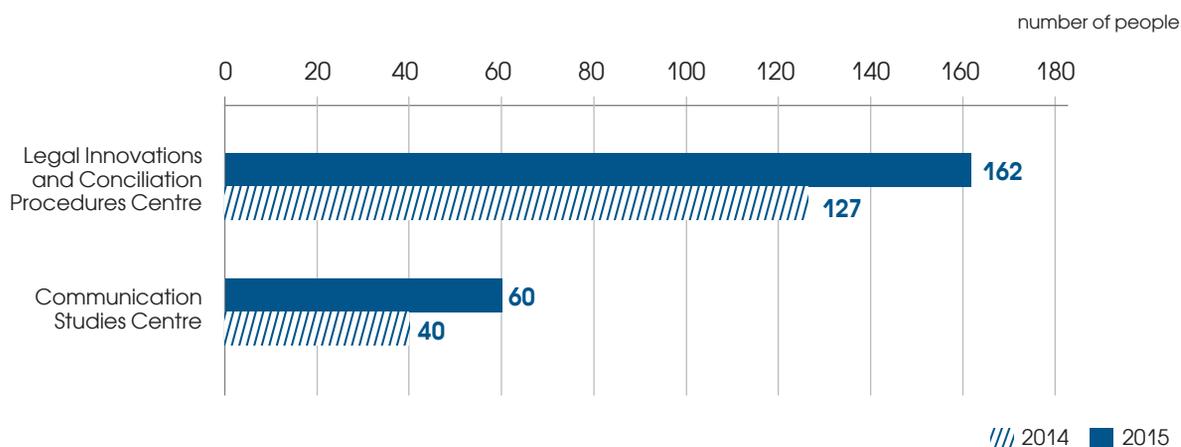
- “Corruption Prevention in Public Authorities”.
- “Magistrature Development”.
- “Development of the Judicial System in the Russian Federation”.
- “Organisational and Legal Basis for the Magistrature Professional Activity”.
- “Corruption Prevention in Autonomous Bodies”.
- “Legal Regulation in the Civil Registration”.
- “Exercising Negotiation (Conflict-Free) Technologies in the Professional Activity of Civil Officers”.
- “Legal and Psychological Framework for the Activity of the Ombudsman for the Rights of Educational Process Participants”.

60 public servants were trained within the advanced training programmes “Culture of Oral and Written Speech as One of the Key Factors for the Professional Competence of Civil Officers” and “Efficient Communication as One of the Key Factors for the Professional Competence of Civil Officers” at the Communication Studies Centre.

In 2015, 222 civil officers were trained within the framework of the state contracts’, 162 of whom completed courses at the Legal Innovations and Conciliation Procedures Centre and 60 at the Communication Studies Centre (see Figure 4.24).

Figure 4.24

#### TRAINING OF CIVIL OFFICERS





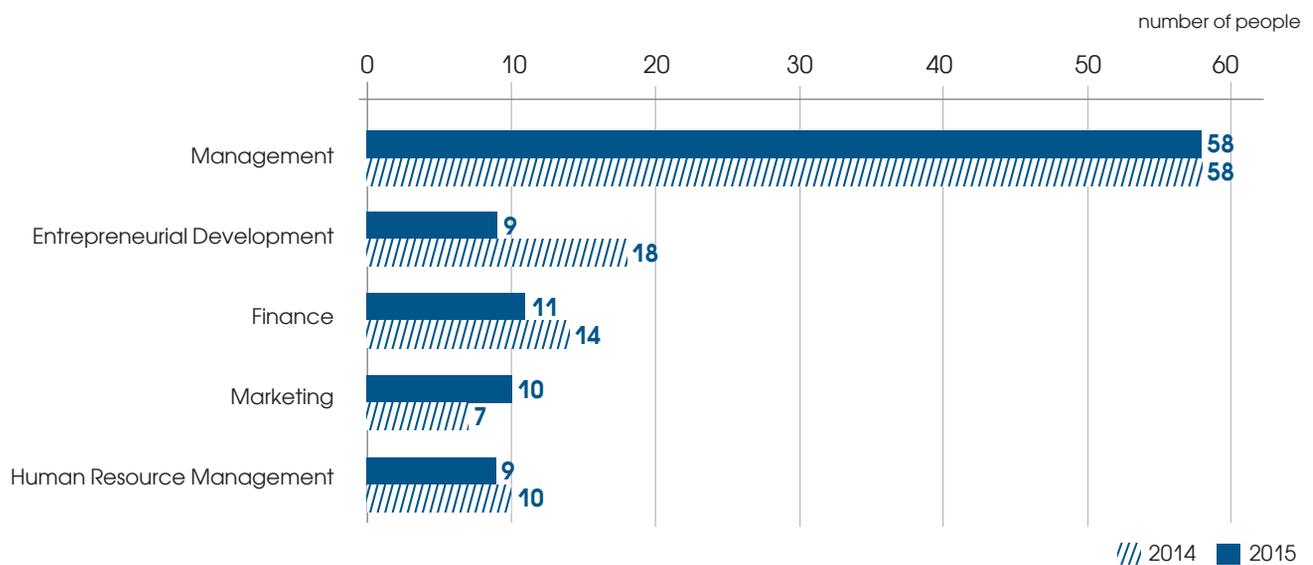
In the framework of cooperation in the implementation of the Presidential Programme for Advanced Training of Engineering Personnel, 25 people advanced their qualification within the further education programmes “Engineering, Production and Exploitation of Nano- and Microelectromechanical Systems for Radioelectronics Navigational Equipment” and “3D Engineering and Prototyping of Machine Elements and Accessory for Their Production”.

In 2015, 24 participants were trained at the University within a unique modular-type further education programme specially developed for ZAO *Experimental Plant VladMIVa*. It was designed for technologists specialising in the manufacture of nanostructural dental materials and chemical components found in medical products, research fellows at the departments for the development and engineering of nanostructural materials, and restorative general practitioners affiliated as research fellows with the departments for the application and promotion of nanostructural dental materials.

The state plan programme on training managers for enterprises of the national economy of the Russian Federation was extended until the 2017/18 academic year by the Order of the Government of the Russian Federation dated 3 September 2015, No 928. In 2015, Voronezh State University trained 97 managers for regional enterprises and organisations including 58 managers within the programme Management, 9 managers within the programme Management (specialisation Human Resource Management), 10 managers within the programme Marketing, 11 managers within the programme Finance, and 9 managers within the programme Entrepreneurial Development (see Figure 4.25).

Figure 4.25

### STATE PLAN PROGRAMME ON TRAINING MANAGERS FOR ENTERPRISES OF NATIONAL ECONOMY OF THE RUSSIAN FEDERATION



Advanced training and retraining of professional accountants, auditors, and advisers on taxes and levies continue at the VSU Resource Centre. In 2015, 149 experts completed their training within these programmes.



Postgraduate professional training of experts with a university degree in medicine is implemented within the programmes Pharmacy Economics and Management, Pharmaceutical Engineering, Pharmaceutical Chemistry and Pharmacognosy, and Contemporary Aspects of the Pharmacy Technician Profession. In 2015, 375 people were trained via professional retraining and certification cycle programmes for pharmacists and pharmacy technicians, which exceeds the value from 2014 by 40%. The following organisations placed orders for the training of their employees:

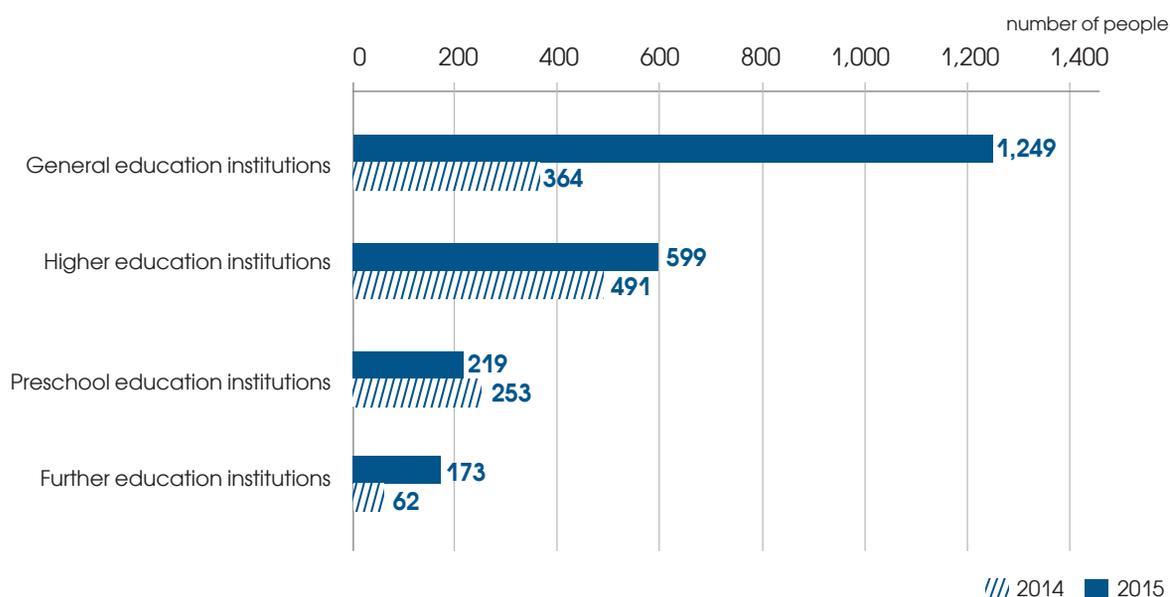
- OOO AMP.
- OOO *Khimfarm*.
- Treasury Enterprise of the Voronezh Region, Voronezhfarmatsiya.
- OOO *Berezhlivaya apteka*.
- OOO *Farm Tekhnologii Plus*.
- Budgetary Health Care Institution of the Voronezh Region, Voronezh Region Children's Clinical Hospital No 1.
- Budgetary Health Care Institution of the Voronezh Region, Voronezh Region Clinical Hospital No 1.
- State Health Care Institution, Usmanskaya Interregional Hospital.
- Non-Governmental Healthcare Institution, Road Clinical Hospital at the Voronezh-1 station of OAO *RZhD*.
- Treasury Health Care Enterprise of the Voronezh Region, Voronezh Region Clinical Psychoneurologic Dispensary.

In the reporting period, the further education training of teaching employees was actively conducted.

In collaboration with the Borisoglebsk branch, 599 lecturers from higher education institutions, 1,249 teachers from general education institutions, 219 teaching employees from preschool education institutions, and 173 teaching employees from further education institutions were trained, which totalled 2,240 lecturers and teachers (see Figure 4.26).

Figure 4.26

#### FREQUENCY DISTRIBUTION OF TEACHING EMPLOYEES ACCORDING TO THEIR PLACE OF EMPLOYMENT





In 2015, 232 expert members of the examination commissions for USEs in Mathematics, Physics, Chemistry, Social Studies, English, German, and French advanced their qualification at Voronezh State University.

The University continues to award a further education qualification "Lecturer" within various specialities. The number of graduates within the abovementioned programmes of professional retraining amounted to 137.

In cooperation with leading IT-companies, Voronezh State University consistently implements further education programmes. These programmes include "CISCO Certified Internetwork Expert (CCNA Exploration)", "InfoTeCS Certified Training", and several courses from Atos IT Solutions and Services: "Administration of Information Systems", "Controlling in the Corporate Finance Management System", and "Software Support and Maintenance (SAP System)".

Programmes from the Wizart Animation School are becoming more popular, such as "Animation Expert", "Compositing Expert", "Autodesk 3DS Max Expert", "Autodesk Maya Expert", and "Pixologic Zbrush Expert". 71 people completed their training within these programmes.

180 people were awarded graduation certificates within the following programmes of the VSU Photography Centre: "Photography Basics", "Creative Photography", "A Basic Course in Photography", and "Studio and Staged Photography".

The University developed an efficient procedure for the opening of further education programmes and created a unified register of further education programmes that are updated on a regular basis. Information about further education can be found on the "Study" page on the official VSU website.

## **4.9. EDUCATION QUALITY ASSESSMENT SYSTEM**

The University system for the quality assessment of education includes not only the internal level of assessment but also independent external evaluation of the implementation level of the educational programme with due account for the satisfaction of clients and all the parties concerned. It also involves an assessment of conformance with the requirements of the Federal State Educational Standards, professional communities and employers, as well as an assessment of the quality of the University's management system in accordance with ISO international standards.

Within the main educational programmes, the education quality of the University is checked by conducting current, midterm, and final assessments.

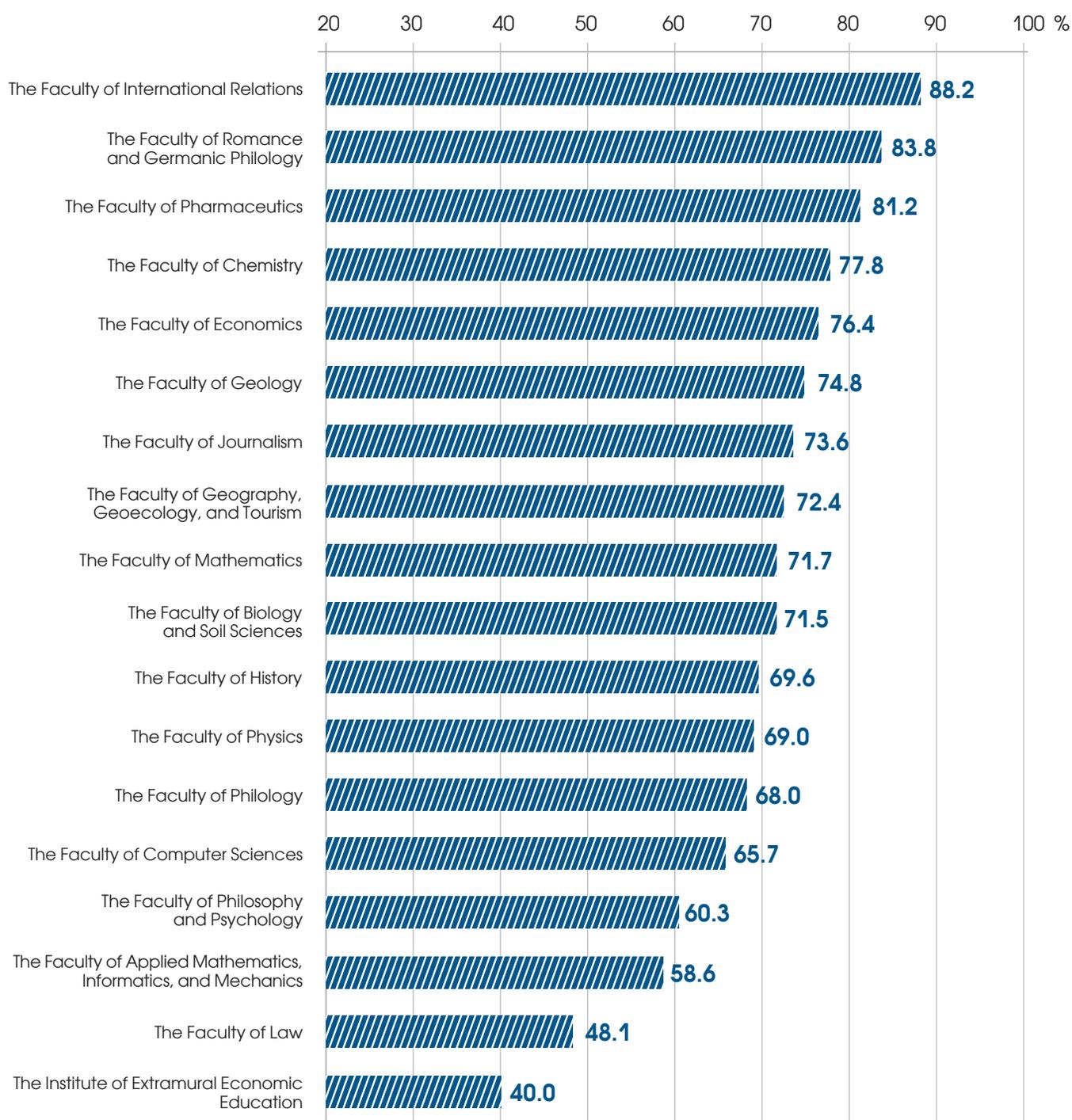


In the 2014/15 academic year, mid-year examinations were held within the time limits approved by the Orders of the Rector dated 24 November 2014, No 755 and 15 December 2014, No 837. The examinations were attended by 15,101 students, which amounted to 89.5% of the total student contingent. 69.6% of the students who were allowed to sit examinations managed to pass them, which exceeded the rate of the previous mid-year examinations by 3.3%.

Academic performance by faculties and with allowance for attempts to re-sit examinations is represented by Figure 4.27.

Figure 4.27

### ACADEMIC PERFORMANCE IN THE MID-YEAR EXAMINATIONS ACCORDING TO FACULTIES



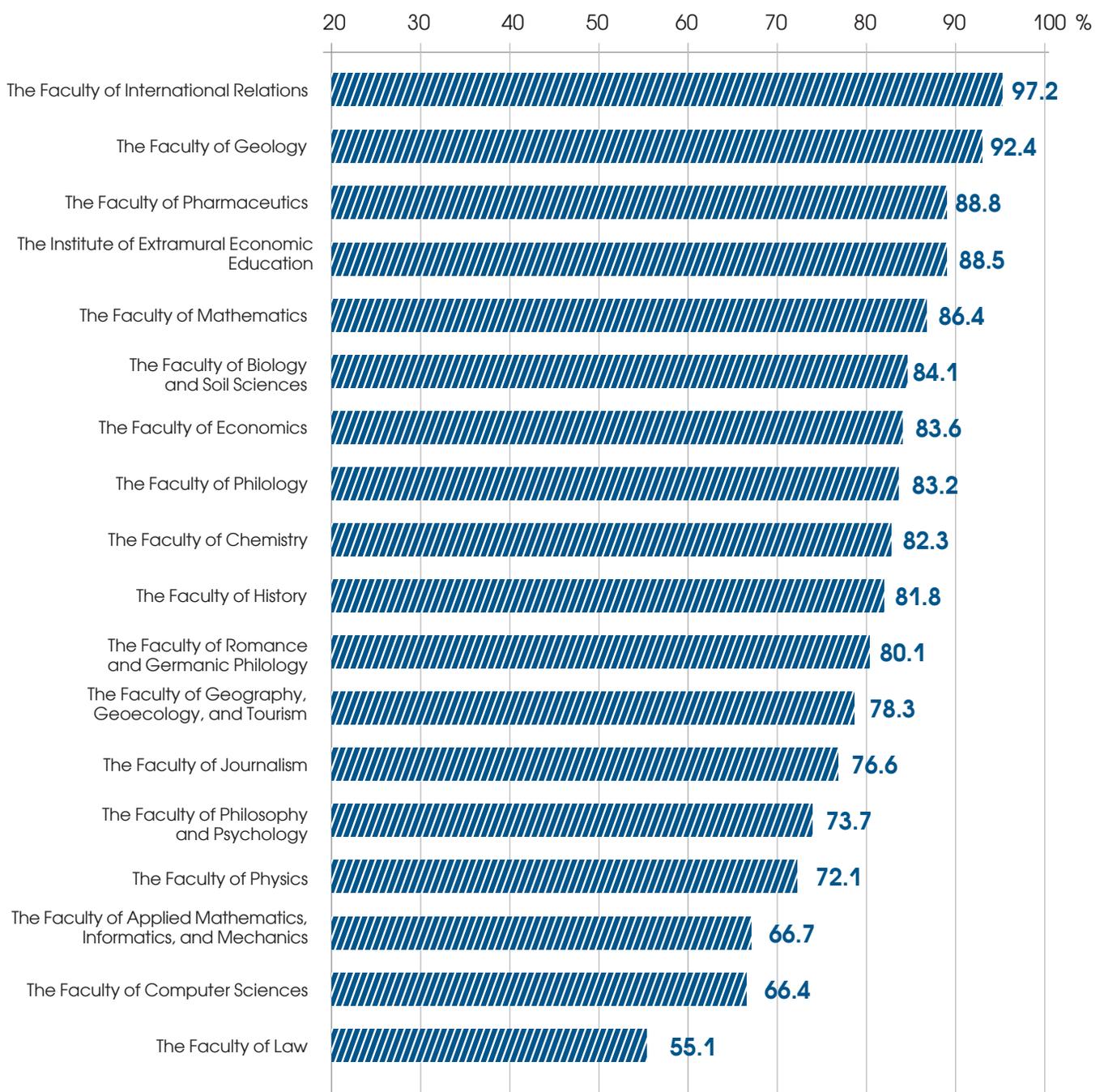


In the 2014/15 academic year end-of-year examinations were held within the time limits approved by the Order of the Rector dated 24 May 2015, No 174. The examinations were attended by 14,400 students, which amounted to 83.8% of the total student contingent. 77% of the students who were allowed to sit their examinations managed to pass them, which exceeded the rate of the previous end-of-year examinations by 10.5%.

The academic performance by faculties and with allowance for attempts to re-sit examinations is represented by Figure 4.28.

Figure 4.28

### ACADEMIC PERFORMANCE IN THE END-OF-YEAR EXAMINATIONS ACCORDING TO FACULTIES



The internal assessment of education quality is annually reflected in the University's self-assessment reports.

The 2015 self-assessment report can be found on the University's official website (URL: [www.vsu.ru/russian/docs/pdf/samoobs12015.pdf](http://www.vsu.ru/russian/docs/pdf/samoobs12015.pdf)).

Students, academic staff members, and other participants of the educational process are annually surveyed in order to identify the level of satisfaction with the quality of education. A comparison of the obtained data shows that in 2015, the level of satisfaction with the quality of education among students was quite high (+0.51), which considerably exceeded the results of the previous years (see Table 4.8).

Table 4.8

### SATISFACTION OF STUDENTS ACCORDING TO THE COMPONENTS OF THE EDUCATIONAL PROCESS IN 2015

No	Components of the educational process	Indices
1	Quality of academic timetables (accuracy, layout)	+0.45
2	Attitude to students shown by the lecturers of the same faculty	+0.77
3	Attitude to students shown by the lecturers of other faculties	+0.55
4	Educational facilities (availability, accessibility, etc.)	+0.50
5	Attitude of the dean's office personnel to the difficulties which students might experience with their studies	+0.35
6	Level of teaching special disciplines (application of new methods, facilities, interactivity, etc.)	+0.57
7	Level of teaching general theoretical disciplines	+0.70
8	Level of teaching humanitarian disciplines	+0.68
9	Content of disciplines within the speciality: the question is answered only by the students who study these disciplines	+0.61
10	Attitude to students shown by the educational support personnel	+0.59
11	Availability of study materials at the library	+0.51
12	Access to electronic materials within the speciality from personal computers	+0.43
13	Attitude to students shown by the library personnel	+0.60
14	Availability of modern computers at the faculty	+0.34
15	Access to computer software and its quality	+0.36
16	Catering services in the University building (opening hours, prices, range of dishes, quality of food, etc.)	+0.06
17	Size of the study load	+0.44
18	Availability of study materials at the library	+0.53
19	Gaps in the timetable	+0.28
20	Availability of elective courses	+0.38
21	Availability of tools and equipment in laboratories	+0.36
22	Availability of places in classrooms	+0.71
23	General assessment of the educational process	+0.69



Altogether, the positive dynamics in the level of satisfaction with the quality of education among students proves the efficiency of management in the University subdivisions and in the University as a whole.

University lecturers also took part in the survey. It has been established that the index of the academic staff members satisfied with their job amounts to 0.44, which exceeds the 2014 rate by 0.04. The main difficulty for the University's academic staff is connected with the need to combine research and teaching in their professional activity.

In 2015, in order to introduce the best training practices to the educational process, improve the quality of teaching, and create a mechanism to motivate professional development of academic staff members, the University implemented an ongoing project "Leader of the Year". Financing for the contest amounted to 800 thousand roubles.

In the reporting period, the University developed a register of educational programmes that underwent independent assessment.

Between 10 March and 31 May 2015, public and professional accreditation of secondary vocational education programmes was held in cooperation with the representatives of the Chamber of Commerce and Industry of the Voronezh Region. As a result, the following programmes acquired the Certificates of Public and Professional Accreditation:

- 43.02.10 – Tourism (The Faculty of Geography, Geoecology and Tourism), accredited for 3 years.
- 33.02.01 – Pharmacy (the Faculty of Pharmaceutics), accredited for 5 years.
- 42.02.01 – Advertising (the Faculty of Journalism), accredited for 3 years.
- 09.02.03 – Programming in Computer Systems (the Faculty of Mathematics), accredited for 3 years.

In December 2015, at the VSU Faculty of International Relations, experts from the Chamber of Commerce and Industry of the Voronezh Region conducted the public and professional accreditation of four higher education programmes:

- 41.03.05 – International Relations (a bachelor's degree programme).
- 41.03.01 – International Regional Studies (a bachelor's degree programme).
- 41.04.05 – International Relations (a master's degree programme).
- 41.04.01 – International Regional Studies (a master's degree programme).

In 2015, the University acquired the Certificate of Public and Professional Accreditation of the bachelor's degree programme 05.03.01 – Geology issued by the Russian Geographic Society for a period of 5 years. The Certificate confirms that the level of the graduates' training meets the modern requirements and needs of the labour market in the field of Geology.

The Chamber of Commerce and Industry of the Russian Federation granted Voronezh State University with a certificate. This showed that the level and quality of training, retraining, and professional development of the specialists at VSU met all the requirements necessary to include our University in the registry of The Chamber of Commerce and Industry of the Russian Federation for a period of 3 years.

In the reporting period, the University took part in the new open all-Russian contest among educational institutions "I'm studying to work!" which was initiated by the Professional Accreditation Agency in collaboration with the All-Russian Non-Governmental Organisation of Small and Medium Enterprises "Support for Russia". Efficient cooperation between the University and employers serving as a basis for the practice-oriented education was evaluated by external experts by means of examining the level of the graduates' employment, organisation of training, availability of master-classes organised by employers, and participation of employers in the improvement of educational programmes. The University became the finalist in this contest.

Furthermore, the University took part in the regional contest "Voronezh Quality" organised by the Government of the Voronezh Region and the State Centre for Standardisation, Metrology, and Examination in the Voronezh Region. The University won an award for the nomination "Higher Education Services" (see Figure 4.29).

Figure 4.29

## AWARD OF THE REGIONAL CONTEST "VORONEZH QUALITY"





## ASSESSMENT OF THE UNIVERSITY MANAGEMENT SYSTEM QUALITY IN ACCORDANCE WITH THE ISO INTERNATIONAL STANDARDS

The University's quality management system for education was highly esteemed. The company NQA (National Quality Assurance, UK) acknowledged that the University quality management system complied with ISO international standards, which was recognized by the certificate provided below (see Figure 4.30). Based on the results of the recertification audit held in 2015, the leading NQA auditors confirmed that the University maintained a quality management system, improved its efficiency, and ensured its integrity. The University was granted with a certificate proving that the quality management system complied with the requirements of international standard ISO 9001:2008 in all structural subdivisions with the extension of the certification for another 3 years (up to 2018).

Figure 4.30

### CERTIFICATE



The use of the UKAS Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 015 held by NQA. NQA is a trading name of NQA Certification Limited, Registration No. 09031798, Registered Office: 20-22 Bedford Row, London, WC1R 4EJ. This certificate is the property of NQA and must be returned on request.



Since April 2015, all the main activities (all the main educational programmes, further education programmes, research, and innovation activities) have been included in the scope of the certification of the University's quality management system in accordance with the international standard of BS EN ISO 9001:2008.

An external audit held in 2015 involved the assessment of the efficiency and functional performance of the University's quality management system. As a result, no criticism were given. However, three cases of discrepancy that could be considered as an opportunity for improvement were revealed.

Following the results of the external recertification audit, remedial action was first planned and then fed down to the University's structural subdivisions. It was connected with the content of the orders issued by the Academic Councils of University faculties, concerning the improvement of educational processes based on the analysis of the data in the reporting period. The teaching staff were asked to fill in their individual work plans, and the timetables were to be made out for the University branches in accordance with the regulations.

During the internal audit, a group of 12 University employees were trained within the advanced training programme "Internal Audit of the Quality Management Systems". The training programme was developed by NQA Russia based on the international standards of ISO 9001:2008 and ISO 9001:2011, and were implemented at the University in February 2015.

In order to bring the document flow in line with the standard ST VSU 1.1.02 – 2015 "Quality Management System. Types of Documents, Their Classification and Nomenclature" the classification and codes of local University documents were changed.

Overall, 433 documents were revised and put into effect in 2015 (see Table 4.9).

Table 4.9

#### LOCAL UNIVERSITY DOCUMENTS PUT INTO EFFECT IN 2015

Type of the document	Number
Standards	122
Regulations	165
Regulations on structural subdivisions	77
Documented procedures	3
Instructions	8
Rules	3
Procedures	2
Job descriptions	413
Forms	53



## 4.10. MAIN ACHIEVEMENTS OF THE UNIVERSITY IN THE FIELD OF EDUCATIONAL ACTIVITIES

**1. There was consistent growth in the number of educational programmes at all degree levels.** In 2015, the University obtained licences for four new educational programmes.

Higher education, bachelor's degree level:

41.03.06 – Public Affairs and Social Sciences.

Higher education, diploma degree level:

060601 – Medical Biochemistry.

060602 – Medical Biophysics.

060609 – Medical Cybernetics.

The University developed and approved nine new master's degree programmes including:

Russian Literature in the European Context, Practical Philology in the Organisation of Administrative, Cultural and Educational Activity, and Text and Communication (within the speciality "Philology", the Faculty of Philology).

Biodiversity of Fauna and Methods of its Conservation (within the speciality "Biology", the Faculty of Biology and Soil Sciences).

Foreign Language Teaching with the Application of Online Technologies (within the speciality "Pedagogical Education", the Faculty of Romance and Germanic Philology).

Management in Education (within the speciality "Pedagogical Education", the Faculty of Philosophy and Psychology).

Microelectronics and Semiconductor Devices and Computer Methods of Radiophysical Information Processing (within the speciality "Radiophysics", the Faculty of Physics).

Protection of Human Rights in the Context of the International Peace (within the speciality "International Relations", the Faculty of International Relations).

**2. All higher professional and secondary vocational education programmes implemented at the University were state-accredited in accordance with the requirements of the Federal State Educational Standards. The accreditation was obtained for a period of 6 years.**

Secondary vocational education, programmes for secondary vocational education specialists: 6 specialities within 6 enlarged groups.

Higher education, bachelor's degree level: 48 specialities within 22 enlarged groups.

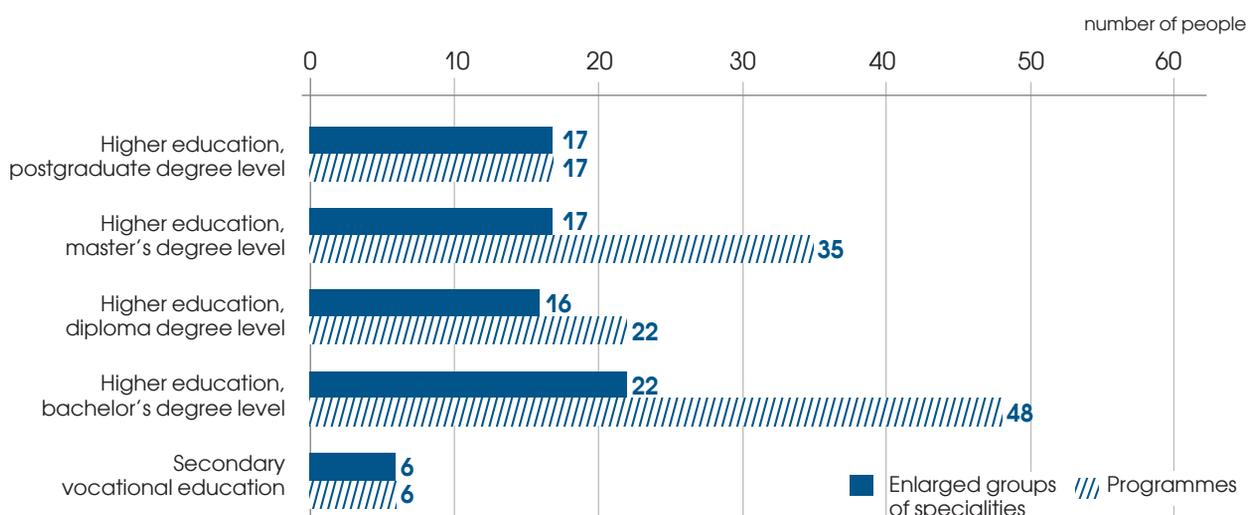
Higher education, diploma degree level: 22 specialities within 16 enlarged groups.

Higher education, master's degree level: 35 specialities within 17 enlarged groups.

Higher education, postgraduate degree level: 17 specialities within 17 enlarged groups (see Figure 4.31).

Figure 4.31

### ACCREDITATION OF EDUCATIONAL PROGRAMMES ACCORDING TO THE ENLARGED GROUPS OF SPECIALITIES



**3. There was a considerable increase in the number of programmes that underwent public and professional accreditation. This was in accordance with the requirements of professional standards and employees.**

Secondary vocational education: 4 programmes.

Higher education, bachelor's degree level: 3 programmes (International Relations, International Regional Studies, and Geology).

Higher education, master's degree level: 2 programmes (International Relations and International Regional Studies).

The Chamber of Commerce and Industry of the Russian Federation granted Voronezh State University with a certificate proving that the level and quality of training, retraining and professional development of specialists, within all programmes implemented at VSU met the employers' requirements.

**4. The 2015 admission campaign highlighted the demand for the University's programmes.**

Students from 76 Russian regions were enrolled at VSU on higher and secondary vocational education courses. The composition of the enrolled students according to degree levels and sources of funding is as follows.

Secondary vocational education: 122 students funded by individuals and legal entities.

Higher education, diploma, and bachelor's degree levels: 3,141 students including 1,638 students funded from the federal budget and 1,638 students funded by individuals and legal entities.

Higher education, master's degree level: 1,578 students, including 812 students funded from the federal budget and 766 students funded by individuals and legal entities.

Higher education, postgraduate degree level: 181 students, including 125 students funded from the federal budget and 56 students funded by individuals and legal entities.

**5. The number of further vocational education programmes increased by 35% and amounted to 325. The funds raised by further vocational education programmes amounted to 46 million roubles.**





# RESEARCH AND INFORMATISATION

51



## RESEARCH AND INFORMATISATION



**Vasily Popov**  
Vice rector for Research  
and Informatisation

### 5.1. MAIN OBJECTIVES OF VSU IN THE AREA OF RESEARCH AND INFORMATISATION FOR THE YEAR 2015

In 2015, the VSU administration and academic staff ran the following projects.

#### **Project “PROMOTING THE TOP-RATED PUBLICATIONS OF VSU RESEARCHERS”**

Over 60 VSU academic staff members received bonuses for publishing their articles in highly ranked journals (with an impact factor of at least 2 according to the Web of Science Citation Report), and over 200 academic staff members received bonuses for publishing their articles in Scopus journals.

#### **Project “DEVELOPING AND PROMOTING VSU JOURNALS WITH A HIGH CITATION INDEX”**

The University publishes 15 journals that are included in the list of referenced scholarly journals recommended by the State Commission for Academic Degrees and Titles, which makes VSU the leader among universities in Voronezh, as they publish no more than three such journals each. The other Voronezh universities combined publish ten journals included in the list of referenced scholarly journals recommended by the State Commission for Academic Degrees and Titles.

Three of the VSU-published journals are now included in international databases.

‘Vestnik Voronezhskogo Gosudarstvennogo Universiteta, series ‘Geology’ is included in the GeoRef database.

Two journals are included in the Chemical Abstracts database:

- “Condensed matters and interphase boundaries”.
- “Adsorption and Chromatography Processes”.



The board of experts of the eLIBRARY has recently published a list of journals included in the Russian Science Citation Index (RSCI) based on Web of Science. Among them are four journals by Voronezh State University:

- 'Vestnik Voronezhskogo gosudarstvennogo universiteta, series 'Geology'.
- Vestnik Voronezhskogo gosudarstvennogo universiteta, series 'Geography. Geoecology'.
- "Condensed matters and interphase boundaries".
- "Adsorption and Chromatography Processes".

#### **Project "PROMOTING VSU DISSERTATION COMMITTEES"**

In 2015, there were 19 dissertation boards operating in 41 fields of study with 99 postgraduate students defending their dissertations via these boards. Following the results of the state certification procedure, four dissertation boards were closed (starting from 1 January 2016), but two joint dissertation boards were opened instead. There are now 17 dissertation boards operating in 37 fields of study at VSU (as of 1 February 2016). The University is now arranging for more joint dissertation boards to be opened.

#### **Project "DEVELOPING THE CENTRE FOR COLLECTIVE USE OF SCIENTIFIC EQUIPMENT"**

In 2015, the Centre for Collective Use of Scientific Equipment purchased several items of modern scientific equipment:

- Malvern Zetasizer ZSP particle characterisation system.
- AKTA Start Chromatography System, an Akta Pure 150L chromatograph.
- PT-PC 75840RMC-Boeckeler ultramicrotome for ultra-thin and semi-thin sectioning.
- Rotary-Pumped Sputter Coater Q 150R ES-Quorum.
- Nikon ECLIPSE Ni-ENi-U microscope.

The researchers working in the Centre, developed new measurement techniques, and arranged for the certification of the Centre's laboratory enabling it to provide measurement services based on the new methodology using a Bruker S8 Tiger X-ray diffractometer. The Centre's website was renovated. The Centre also attracted new users.

The last two years of work on the project for developing the Centre of Collective Use of Scientific Equipment, supported by the Ministry of Education and Science of the Russian Federation, yielded an increase in the number of the service areas up to seven in 2015, and the total number of services up to 63.

#### **Project "ELECTRONIC UNIVERSITY"**

The following tasks were accomplished within the project:

- Maintaining and developing the University's telecommunication system, the Wi-Fi network, and the Voice over IP system.
- Maintaining and developing the information systems for the University's management, the University's official website, and all the web portals.
- Developing a VSU mobile application.
- Developing the Data Processing Centre of Voronezh State University.
- Developing electronic education technologies, e-learning, and distant learning.



## 5.2. RESEARCH FUNDING IN 2015

In 2015, the total research projects funding amounted to 363.8 million roubles (Fig. 5.1). The decrease in funding (compared to the last year's figures) is due to the fact, that in 2014, the University finished a large research project implemented within the Order of the Government of the Russian Federation of 9 April 2010 No 218 (the project's funding in 2014 amounted to 40 million roubles). Unfortunately, there was no contest for this Government Grant in 2015, and despite a significant increase in other sources of funding, it was not sufficient to cover the shortfall.

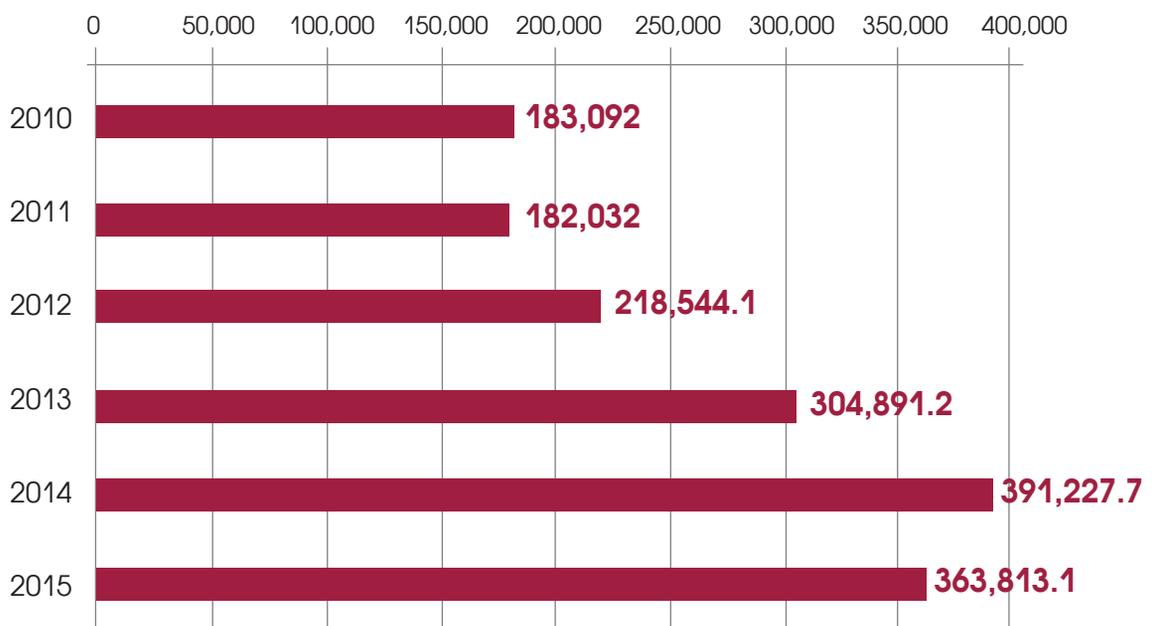
Of the total sum invested in research:

- 63.4 million roubles (17.4%) was received for the funding of 30 research projects under the Government Order of the Ministry of Education and Science of the Russian Federation.
- 44 million roubles (12.1%) – for funding of research and development in top-priority areas of science and technology in Russia for the 2014-2020 Federal Target Programme.
- Grants from the Russian foundations supporting scientific and technical research and innovations constituted 79.5 million roubles (21.9%).

In 2015, state funding constituted 59.4% of the total funding. 37.2% came from industrial enterprises and other organisations that were interested in innovations and planned to implement within their production process the results of the research conducted at VSU.

Figure 5.1

### RESEARCH FUNDING (thousand roubles)





The portion of research carried out within the priority areas of science and technology in Russia was 59.7%. Research in Social Sciences amounted to 17.8 million roubles (4.9%).

### 5.3. SOURCES OF VSU'S RESEARCH FUNDS IN 2015

The sources of VSU's research funds are listed in Table 5.1.

Table 5.1

#### SOURCES OF VSU'S RESEARCH FUNDS IN 2015

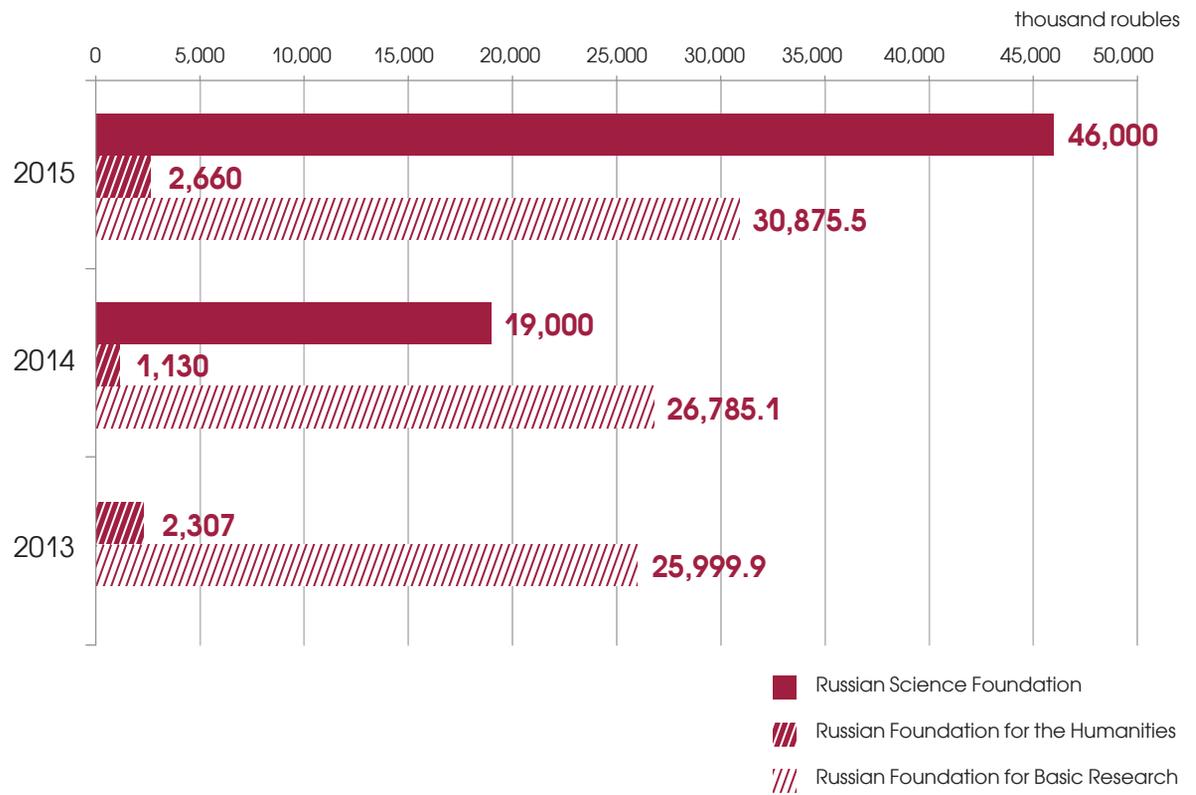
Source of funding	%
Ministry of Education and Science of the Russian Federation	30.7
Other ministries, federal agencies, and institutions	5.8
Russian foundations supporting scientific and technical research and innovations	21.9
Federation subjects and local budget	1.0
Russian Economic Entities	37.2
Other non-governmental organisations in Russia and VSU funds	2.8
International sources	0.6

# 5

Research funding coming from Russian scientific foundations is shown in Figure 5.2.

Figure 5.2

## RESEARCH FUNDING COMING FROM RUSSIAN SCIENTIFIC FOUNDATIONS



## 5.4. PAPERS PUBLISHED BY VSU'S ACADEMIC STAFF IN 2015

The statistics on publications by VSU's academic staff members as of 24 February 2016 is shown in Tables 5.2, 5.3, and in Figure 5.3.

Table 5.2

### VSU'S SCIENTOMETRIC INDICES IN 2014–2015

No	Parameter	Year	
		2014	2015
1	Published articles (Academic staff articles database)	6,614	5,834
2	Published articles (Russian Science Citation Index database)	4,100	4,310
3	Total number of citations (Russian Science Citation Index database)	14,806	14,710
4	Total H-index (Russian Science Citation Index database)	62	88
5	Articles published in Web of Science journals	186	211
6	Total number of citations per year (Web of Science)	710	902
7	Articles published in Scopus journals	334	316
8	Total number of citations per year (Scopus)	195 (Russian Science Citation Index database)	288 (Russian Science Citation Index database)

Some more data from the Academic staff articles database.

**Total number of monographs published – 115 (in 2014), 106 (in 2015).**

**Total number of study guides published – 463 (in 2014), 428 (in 2015).**

Figure 5.3

### PUBLICATION DATA ACCORDING TO WEB OF SCIENCE CORE COLLECTION

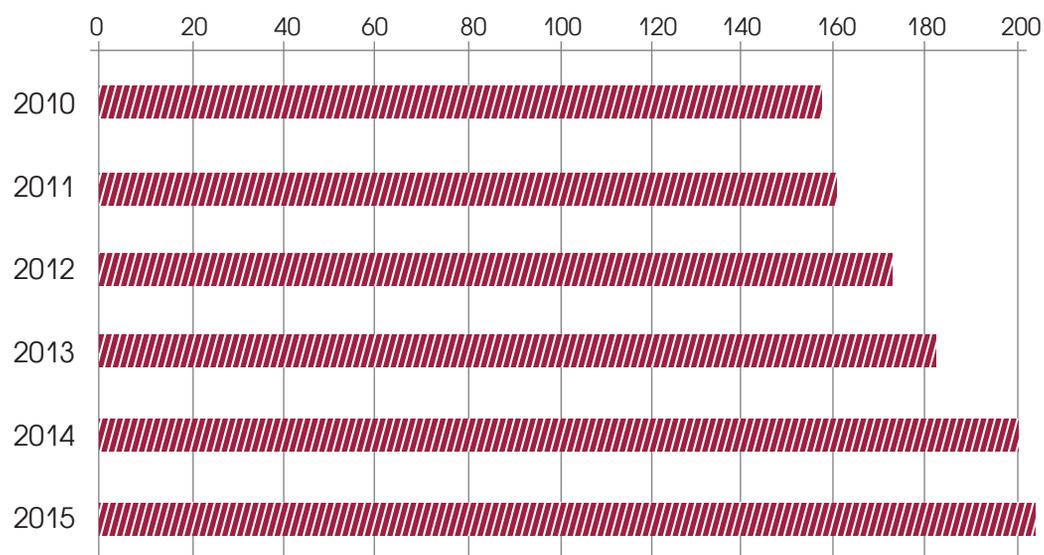




Table 5.3

### AUTHORS LISTED ACCORDING TO THE HIRSH INDEX

No	Full name	Hirsch index
1	Iosif A. Sternin	38
2	Yury N. Starilov	33
3	Zinaida D. Popova (Kozyreva)	30
4	Oleg Ya. Baev	25
5	Dmitry A. Endovitsky	25
6	Nikolay L. Manakov	21
7	Yury I. Tereshevsky	21
8	Arkady D. Savko	20
9	Natalia V. Sirotkina	20
10	Nikolay P. Lyubushin	19
11	Stanislav G. Kadmensky	18
12	Nikolay M. Chernyshov	17
13	Lyubov V. Tsurikova	17
14	Mikhail V. Frolov	17
15	Vladimir F. Selemenev	16
16	Marina V. Sentsova (Karaseva)	16
17	Boris A. Zon	16
18	Vladimir A. Shaposhnik	16
19	Vitaly D. Ovsyannikov	16
20	Vasily N. Popov	15
21	Igor E. Risin	15
22	Pavel V. Seredin	15



VSU's faculties are listed according to their Hirsh index in Table 5.4.

Table 5.4

#### FACULTIES LISTED ACCORDING TO THE HIRSH INDEX

No	Faculty	Hirsch index
1	The Faculty of Law	51
2	The Faculty of Philology	43
3	The Faculty of Economics	38
4	The Faculty of Physics	32
5	The Faculty of Biology and Soil Sciences	30
6	The Faculty of Romance and Germanic Philology	30
7	The Faculty of Geology	27
8	The Faculty of Chemistry	24
9	The Faculty of History	23
10	The Faculty of Mathematics	22
11	The Faculty of Applied Mathematics, Informatics, and Mechanics	20
12	The Faculty of Computer Sciences	19
13	The Faculty of Journalism	18
14	The Faculty of Geography, Geoecology, and Tourism	15
15	The Faculty of Philosophy and Psychology	14
16	International Education Institute	11
17	The Faculty of Pharmaceutics	11
18	The Faculty of International Relations	8
19	The Faculty of Military Education	1
20	The Department of Safety and Basic Medical Training	0
21	The Department of Physical Education and Sports	0

The above information was derived from the eLibrary's section covering the publications data of VSU's departments. This data, however, is not objective enough, as the number of faculty members varies for each of the faculties.



## 5.5. VSU'S ACADEMIC AND SCIENTIFIC SCHOOLS AND RESEARCH AREAS

Research at VSU is carried out within 28 major areas:

1. Analytical, geometrical, and numerical methods of studying differential equations.
2. Function theory and functional analysis.
3. Mathematical modelling, software and dataware, methods of numerical and applied mathematics in fundamental scientific research.
4. Deformable body and fluid mechanics.
5. Solid-state nanostructures. Physics of magnetic and ferroelectric phenomena. Semiconductors and semiconductor structures. Microwave solid-state devices.
6. Fundamental nuclear physics. Cosmic-ray physics and the nuclear aspects of astrophysics. Nuclear physics issues.
7. Fundamental issues of material-radiation interaction.
8. Issues of information transfer, acquisition, processing, and storage. Radioelectronic device electromagnetic compatibility.
9. High-temperature processes in chemistry and materials science.
10. Catalysis, phase equilibrium, physical and chemical processes in solutions, melts, and solid bodies.
11. Surface phenomena, colloids and nanoparticles, and clusters.
12. Directed synthesis and extraction of physiologically active chemical compounds and special-purpose substances. Bioactive natural and non-natural substances and low-molecular bioregulators.
13. Ecological, physiological, physical and chemical foundations of interaction between biosystems and the environment.
14. Soil genesis and evolution influenced by natural and anthropogenic factors.
15. Deep structure of the Earth's crust, geodynamics, magma generation and deposit generation, and accumulation conditions in the Precambrian in platform sedimentary basins and fold belts.
16. Ecological and geographical aspects of the interaction between society and the environment.
17. The scientific foundation of social and economic policies and business practice.
18. Economics management system: emergence and development.
19. Individuals as subjects of social change: social, humanitarian, and psychological issues.
20. Archaeology and ethnography of the Central Black Earth Region.
21. Russian and European History.
22. International literature and languages and their interaction. The issue of international communication.



23. A contrastive-comparative study of Germanic, Romance, and Slavic languages and cultures.
24. Mass media history, theory and practice.
25. The Russian state and its legal framework: modern development, concerns, and prospects.
26. Educational processes in the changing sociocultural environment, acmeology.
27. Social and political processes, crises, conflicts.
28. The theory, methodology, and policies of accounting, analysis, and monitoring the activity of economic entities.

## THERE ARE 41 ACADEMIC AND SCIENTIFIC SCHOOLS AT VSU

### 1. Topological methods in nonlinear analysis

Founded by Professor Yu. G. Borisovich, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

Head Researcher – Professor V. G. Zvyagin, DSc in Physics and Mathematics

### 2. Mathematical analysis

Head Researcher – Professor E. M. Semenov, DSc in Physics and Mathematics

### 3. Differential equations, optimal management and nonlinear oscillation theory

Head Researcher – Professor A. I. Perov, DSc in Physics and Mathematics

### 4. Qualitative methods for boundary value problems in complex environment and spatial networks

Founded by Professor Yu. V. Pokorniy, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

### 5. Solid mechanics

Head Researcher – Professor A. N. Sporykhin, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

### 6. Theoretical physics (fundamental issues of interaction of optical radiation with atoms and molecules)

Head Researcher – Professor B. A. Zon, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

### 7. Radiophysics (enhancing electromagnetic compatibility of radio-electronic equipment by improving the radio receiving equipment and its elements)

Head Researcher – Professor E. A. Algazinov, DSc in Physics and Mathematics

### 8. Statistical informatics and radiophysics

Head Researcher – Professor A. P. Trifonov, DSc in Technical Sciences, Honoured Scientist of the Russian Federation

### 9. Photostimulated processes on crystals with ion and covalent bonds

Head Researcher – Professor A. N. Latyshev, DSc in Physics and Mathematics

### 10. Electron structure of condensed matter

Head Researcher – Professor E. P. Domashevskaya, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation, Associate member of the Russian Academy of Sciences

### 11. Nuclear and condensed matter physics

Head Researcher – Professor S. G. Kadmsky, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation



**12. Chemistry (directed synthesis of physiologically active chemical compounds, polymer, and their special-purpose dispersion)**

Head Researcher – Professor G. V. Shatalov, DSc in Chemistry

**13. Chemistry of solids and semiconductors, and processes in them and on the surface**

Founded by Professor Ya. A. Ugai, DSc in Chemistry, USSR National Prize in Science laureate, Honoured Scientist of the Russian Federation, Full Member of the International Academy of Higher Education

**14. Chemistry of ion-exchange and membrane processes**

Head Researcher – Professor V. F. Selemenev, DSc in Chemistry, Honoured Scientist of the Russian Federation

**15. Electrochemistry and electrochemistry of alloys**

Founded by Professor I. K. Marshakov, DSc in Chemistry, Honoured Scientist of the Russian Federation

**16. Solid state chemistry (physicochemistry of heterogeneous equilibria)**

Head Researcher – Professor E. G. Goncharov, DSc in Chemistry

**17. Biophysics (the functioning of complex (oligomeric) protein systems in various microenvironments)**

Head Researcher – Professor V. G. Artyukhov, DSc in Biology, Honoured Scientist of the Russian Federation

**18. Invertebrate animal classification, fauna and ecology: entomology, ecology, hydrology, and parasitology**

Head Researcher – Professor O. P. Negrobov, DSc in Biology

**19. Plant metabolism organization and regulation**

Head Researcher – Professor A.T. Epryntsev, DSc in Biology, Honoured Scientist of the Russian Federation

**20. Soil studies (anthropogenic evolution of black soils)**

Founded by Professor A. P. Scherbakov, DSc in Biology, Full Member of the Russian Academy of Agricultural Sciences, State Prize of the Russian Federation Laureate, Honoured Scientist of the Russian Federation

Head Researcher – Professor D. I. Scheglov, DSc in Biology

**21. Soil studies (soil genesis, evolution, structure, and biospheric functions)**

Founded by Professor B. P. Akhtyrtsev, DSc in Biology, Honoured Scientist of the Russian Federation

Head Researcher – Professor T. A. Devyatova, DSc in Biology

**22. Geodynamics, magmatism and metallogeny of the Early Precambrian history of the Earth**

Head Researcher – Professor N. M. Chernyshov, DSc in Geology, Associate Member of the Russian Academy of Sciences, Honoured Scientist of the Russian Federation

The school is ranked among the top scientific schools of the Russian Federation (in 2008–2009 was included into state support programme for the leading scientific schools in Russia)

**23. Lithology and minerals of ancient platforms**

Head Researcher – Professor A. D. Savko, DSc in Geology, Honoured Geologist of the Russian Federation



#### **24. History**

Head Researcher – Professor A. Z. Vinnikov, DSc in History

#### **25. History**

Head Researcher – Professor M. D. Karpachev, DSc in History, Honoured Scientist of the Russian Federation

#### **26. Archaeology. East European forest-steppe archaeology**

Head Researcher – Professor A. D. Pryakhin, DSc in History, Honoured Scientist of the Russian Federation

#### **27. Economics theory and the world economy**

Founded by Professor Yu. I. Khaustov, DSc in Economics

#### **28. Labour market research methodology**

Head Researcher – Professor I. T. Korogodin, DSc in Economics

#### **29. Management**

Founded by Professor V. N. Eytington, PhD in Economics, Honoured Economist of the Russian Federation

#### **30. Philosophy of science**

Head Researcher – Professor A. S. Kravetz, DSc in Philosophy, Honoured Scientist of the Russian Federation

#### **31. Russian literature studying and teaching**

Head Researcher – Professor V. M. Akatkin, DSc in Philology, Honoured Scientist of the Russian Federation

#### **32. Literary studies (literary anthropology and author's role in Russian literature of the 19th century)**

Founded by Professor B. T. Udodov, DSc in Philology, Honoured Scientist of the Russian Federation

#### **33. History of journalism**

Head Researcher – Professor L. E. Kroichik, DSc in Philology

#### **34. Linguistics. Slavic onomastics**

Head Researcher – Professor G. F. Kovalev, DSc in Philology

#### **35. Linguistics (Romance and Germanic languages)**

Founded by Professor Yu.A. Rylov, DSc in Philology

#### **36. World and Russian linguistics**

Head Researcher – Professor Z. D. Popova, DSc in Philology, Honoured Scientist of the Russian Federation

#### **37. Physical geography, geophysics, and landscape geochemistry**

Head Researcher – Professor V. I. Fedotov, DSc in Geography

#### **38. Legal science**

Head Researcher – Professor Yu. N. Starilov, DSc in Law, Honoured Scientist of the Russian Federation

#### **39. Pedagogical sciences**

Head Researcher – Professor N. I. Viyunova, DSc in Pedagogics

#### **40. Political sciences**

Head Researcher – Professor A. V. Glukhova, DSc in Politics

#### **41. Physicochemistry and technology of thin-film materials and nanomaterials**

Head Researcher – Professor V.M. Ievlev, DSc in Physics and Mathematics, Full Member of the Russian Academy of Sciences

The school is ranked among the top scientific schools of the Russian Federation (in 2006-2010 was included into state support programme for the leading scientific schools in Russia)



## 5.6. RESEARCH PROJECTS CARRIED OUT AT VSU WITHIN THE FRAMEWORK OF THE FEDERAL TARGET PROGRAMME, THE RUSSIAN FOUNDATION FOR HUMANITIES GRANT, THE RUSSIAN FOUNDATION FOR BASIC RESEARCH GRANT AND OTHER GRANTS

### SCIENTIFIC RESEARCH AS A CORE PART OF THE GOVERNMENT ORDER OF THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION (20 PROJECTS)

1019 Research project No. 14006 for 2014–2016

Studying atomic and molecular processes in a strong laser field

Head Researcher – Professor N. L. Manakov, DSc in Physics and Mathematics (Faculty of Physics, Department of Theoretical Physics)

848 Research project No. 14007 for 2014–2016

Synthesis, structure, and properties of composites of membrane elements for the ultra-purification of hydrogen

Head researcher – A. A. Maximenko, PhD in Physics and Mathematics (Science Park)

959 Research project No. 14008 for 2014–2016

The role of Enzymes of major and alternative metabolic pathways in adaptive cell responses of eukaryotic and prokaryotic organisms

Head Researcher – Professor A.T. Epryntsev, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Biochemistry and Cell Physiology)

675 Research project No. 14011 for 2014–2016

Kinetics and dynamics tests of physico-chemical processes with adsorption, electrochemical, and transport stages in metals, alloys, and nanostructured metal-polymer composites for further implementation in electrocatalysis, hydrogen energetics, and anticorrosion protection

Head Researcher – Professor A. V. Vvedensky, DSc in Chemistry (Faculty of Chemistry, Department of Physical Chemistry)

951 Research project No. 14012 for 2014–2016

Developing methods and processes for analysing, separating and concentrating physiologically active substances using new polymer and composite nanomaterials

Head Researcher – Professor V. F. Selemenev, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

1035 Research project No. 14013 for 2014–2016

Expressive breathing control in case of disorders associated with oxidative stress

Head Researcher – Professor V.N. Kalaev, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

1122 Research project No. 14014 for 2014–2016

Studying non-penetrating Rydberg states of atoms and molecules

Head Researcher – Associate professor V.E. Chernov, PhD in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics)

853 Research project No. 14015 for 2014–2016

Studying ore-forming magmatic systems of non-ferrous and precious metals within the theory of general evolution of the Precambrian lithosphere in Central Russia (assessing the resources and exploration potential)

Head Researcher – N.M. Chernyshov, DSc in Geology, Associate Member of the Russian Academy of Sciences (Faculty of Geology, Department of Mineralogy, Petrology and Geochemistry)



978 Research project No.14016 for 2014–2016

**Design and functional principles of modern radio-electronic equipment based on the use of ultra-wideband signals**

Head Researcher – Professor G. K. Uskov, DSc in Physics and Mathematics (Faculty of Physics, Department of Electronics)

1296 Research project No.14017 for 2014–2016

**Synthesizing nanosorbents and nanocontainers for drug substances using heterophase polymerization in the presence of new emulsifiers**

Head Researcher – Professor G. V. Shatalov, DSc in Chemistry (Faculty of Chemistry, Department of High Molecular Compounds and Colloids)

1546 Research project No.14018 for 2014–2016

**Developing methods and processes for synthesizing new azapolyheterocycles using tandem and multicomponent aminoazol reactions**

Head Researcher – A. Yu. Potapov, PhD in Chemistry (Faculty of Chemistry, Department of Organic Chemistry)

1226 Research project No.14020 for 2014–2016

**Studying the optical properties of alkaline earth atoms and ions used in quantum metrology and quantum information systems**

Head Researcher – Professor V. D. Ovsyannikov, DSc in Physics and Mathematics (Faculty of Physics, Department of Materials Science and Nanosystems Industry)

1606 Research project No.14021 for 2014–2016

**Functional nanomaterials synthesis, analysis and precision diagnostics based on various methods, including synchrotron radiation**

Head Researcher – Associate Professor S. Yu. Turischev, PhD in Physics and Mathematics (Faculty of Physics, the Department of solid-state physics and nanostructures)

1230 Research project No.14022 for 2014–2016

**Studying optical properties and photodynamic response in colloid quantum dots conjugated with dye molecules**

Head Researcher – Associate Professor M. S. Smirnov, PhD in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

1110 Research project No.14024 for 2014–2016

**Studying the spectral theory of operators, linear order relation, and function theory**

Head Researcher – Professor A. G. Baskakov, DSc in Physics and Mathematics (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Mathematical Methods of Operations Research)

1090 Research project No.14020 for 2014–2016

**Studying the regulation mechanisms of the antioxidant status and functioning of human immunocompetent cells under oxidative stress**

Head Researcher – Associate Professor A. A. Agarkov, PhD in Geology (Faculty of Biology and Soil Sciences, Department of Medical Biochemistry and Microbiology)

740 Research project No.14026 for 2014–2016

**Functional nano- and heterostructure design and diagnostics based on new-generation optoelectronics – A3B5 semiconductors and silicon**

Head Researcher – Associate Professor P. V. Seredin, DSc in Physics and Mathematics (Faculty of Physics, the Department of solid-state physics and nanostructures)



1012 Research project No.14097 for 2014–2016

Studying the effect of strong electromagnetic radiation (harsh synchrotron radiation and high temperature radiation) on the properties of atomic and nuclear systems

Head Researcher – Professor I. V. Kopytin, DSc in Physics and Mathematics (Faculty of Physics, Department of Theoretical Physics)

1649 Research project No.14098 for 2014–2016

Theory and practice of nuclear fission and radioactive decay emitting nucleons, light nuclei, and gamma-quanta for optimization of nuclear physics processes

Head Researcher – Professor S. G. Kadmsky, DSc in Physics and Mathematics (Faculty of Physics, Department of Nuclear Physics)

1390 Research project No.14096 for 2014–2016

Studying the molecular interaction processes in multiple-component systems containing organic and inorganic polymer sorbents and highly mineralised solutions of amino acids, vitamins, and organic dyes

Head Researcher – Associate Professor V. Yu. Khokhlov, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

### **SCIENTIFIC RESEARCH CARRIED OUT WITHIN THE PROJECT ORIENTED PART OF THE GOVERNMENT ORDER OF THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION (8 PROJECTS)**

6.2477.2014/K Research project No.14069 for 2014–2016

Studying the free-radical homeostasis and correction of its disorders resulting from rheumatic arthritis

Head Researcher – Professor T. N. Popova, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Medical Biochemistry and Microbiology)

3.1306.2014/K Research project No.14068 for 2014–2016

Studying the many-body effect from atom and diatomic molecules interaction with electromagnetic impulses

Head Researcher – Professor B. A. Zon, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics)

4.2100.2014/K Research project No.14067 for 2014–2016

New linear and condensed heterocyclic systems based on functionally substituted hydroquinols: developing synthesising methods and studying the physiological activity

Head Researcher – Professor Kh. S. Shikhaliev, DSc in Chemistry (Faculty of Chemistry, Department of Organic Chemistry)



3.1868.2014/K Research project No.14065 for 2014–2016

Theory and practice in studying the nature of interatomic interactions and electron energy spectrum in metal-oxide nanocomposites using X-ray and electronic spectroscopy with synchrotron radiation

Head Researcher – Professor E. P. Domashevskaya, DSc in Physics and Mathematics (Faculty of Physics, the Department of solid-state physics and nanostructures)

1.1539.2014/K Research project No.14072 for 2014–2016

Studying mathematical problems of non-Newtonian hydrodynamics

Head Researcher – Professor V. G. Zvyagin, DSc in Physics and Mathematics (Mathematics Research Institute)

4.225.2014/K Research project No.14070 for 2014–2016

Studying the effect of chemostimulating dopants on the oxidation process of A3B5 semiconductor compounds (GaAs, InAs, GaP, InP) and developing new processes for growing films on them which would be of nanoscale thickness and could be used for various purposes

Head Researcher – Professor I. Ya. Mittova, DSc in Chemistry (Faculty of Chemistry, Department of Materials Science and Nanosystems Technologies)

3.130.2014/K Research project No.14066 for 2014–2016

Developing physical and technical approaches for the design and diagnostics of epitaxially-integrated AlIIIbV/Si heterostructures

Head Researcher – Associate Professor P. V. Seredin, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid-state Physics and Nanostructures)

6.149.2014/K Research project No.14071 for 2014–2016

Reactive oxygen intermediates' metabolism in mitochondria with various pathologies

Head Researcher – Professor V. N. Popov, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

## **GOVERNMENT ORDER (INTERNATIONAL DEPARTMENT OF THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION) (2 PROJECTS)**

HM3733 Research project No.15030 for 2015

Carrying out research within the framework of the international scientific and educational partnership programme "Mikhail Lomonosov" to study "Small parameter methods in coupled thermoelasticity problems"

Head Researcher – I. G. Khvostov, post-graduate student (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Mechanics and Computer Modelling)

HM3739 Research project No.15051 for 2015

Carrying out research within the framework of the international scientific and educational partnership programme "Mikhail Lomonosov" on "Studying and developing single- and multimode SHF and EHF antennas"

Head Researcher – Associate Professor D. N. Borisov, PhD in Technical Sciences (Faculty of Computer Sciences, Department of Information Systems)



## **GRANTS OF THE PRESIDENT OF THE RUSSIAN FEDERATION TO SUPPORT YOUNG RUSSIAN SCIENTISTS WITH PHD DEGREES (5 PROJECTS)**

MK-3317.2015.7 Research project No.15014 for 2015–2016

**Methodological aspects of developing new dosage forms based on microcapsules**

Head Researcher – Associate Professor Yu. A. Polkovnikova, PhD in Pharmacy (Faculty of Pharmaceutics, Department of Pharmaceutics for postgraduate students)

MK-6560.2015.6 Research project No.15018 for 2015–2016

**Legal innovations in securing the right to access information in criminal proceedings**

PHead Researcher – M. V. Gorsky, PhD in Law (Faculty of Law, Department of Criminalistics)

MK-3733.2015.5 Research project No.15013 for 2015–2016

**Conservation of medicinal plants considering the growing level of anthropogenic pressure**

Head Researcher – Associate Professor N. A. Diakova, PhD in Biology (Faculty of Pharmaceutics, Department of Pharmaceutics for postgraduate students)

MK-1682.2014.5 Research project No.14057 for 2014–2015

**Developing a model for the ecological safety of the Central Black Earth Region' population living in areas of high ecological risk**

Head Researcher – Associate Professor S. A. Epyntsev, PhD in Geography (Faculty of Geography, Geoecology and Tourism, Department of Geoecology and Environmental Monitoring)

MK-4535.2014.2 Research project No.14056 for 2014–2015

**Specifics of the formation and properties of silicon-based low-dimensional oxide systems**

Head Researcher – A. S. Lenshin, PhD in Physics and Mathematics (Faculty of Physics, Department of solid-state physics and nanostructures)

## **FEDERAL TARGET PROGRAMME “RESEARCH AND DEVELOPMENT IN TOP-PRIORITY AREAS OF SCIENCE AND TECHNOLOGY IN RUSSIA FOR 2014–2020” (6 PROJECTS)**

14.574.21.0027 Research project No. 14099 for 2014–2015

**Developing a technique for post-operation monitoring of metastatic tumour growth by DNA analysis of acellular freely circulating blood**

Head Researcher – Professor V. N. Popov, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

14.577.21.005 Research project No.14064 for 2014–2016

**Developing technological solutions for the formation of nanostructured hybrid membranes that can be used to create potentiometric multisensor systems for the reagentless monitoring of water**

Head Researcher – Professor O. V. Bobreshova, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

14.574.21.0093 Research project No. 14104 for 2014–2016

**Development and upgrading nuclear and X-ray diagnostic methods for nanomaterials**

Head Researcher – Professor E.P. Domashevskaya, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid-state Physics and Nanostructures)



14.593.21.0111 Research project No.14103 for 2014–2016

New technology and equipment development for the production of nanoscale magnesian powders from salvaged enriched amorphous magnesite

Head Researcher – Professor V. F. Selemenev, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

14.574.21.0112 Research project No. 14105 for 2014–2016

Development of a programming and computing suite for the computer modelling of structural, sorption, and electronic properties of fullerenes and carbon nanotubes and adsorption processes

Head Researcher – Professor E. V. Butyrskaya, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

14.577.21.0182 Research project No.15054 for 2015–2017

Development of energy-saving technologies used in the process of production of emulsifiers and emulsifying systems for food and non-food industries based on raw materials and their derivative products

Head Researcher – Professor Kh. S. Shikhaliev, DSc in Chemistry (Faculty of Chemistry, Department of Organic Chemistry)

### **RUSSIAN SCIENCE FOUNDATION GRANT FOR CONDUCTING BASIC RESEARCH AND PILOT STUDY BY SMALL RESEARCH GROUPS (3 PROJECTS)**

14-12-00583 Research project No.14062 for 2014–2016

Production and study of new functional ferroelectric and multiferroic materials with custom electrical, magnetic, and mechanical properties

Head Researcher – Professor A. S. Sidorkin, DSc in Physics and Mathematics (Faculty of Physics, Department of Experimental Physics)

14-13-01470 Research project No.14063 for 2014–2016

Synthesis, electromigration, surface properties, and reactivity of modified nanoheterogeneous sensing materials based on semiconductor oxides with various morphologies

Head Researcher – Professor V. M. Ilevlev, DSc in Chemistry (Faculty of Chemistry, Department of Materials Science and Nanosystems Technologies)

14-14-00721 Research project No.14061 for 2014–2016

Free-radical, molecular and enzymic mechanisms for coordinating the tricarboxylic acid cycle and the glyoxylate cycle in the adaptive responses of plant cells' metabolism to anthropogenic changes in the biosphere

Head Researcher – Professor A. T. Epryntsev, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Biochemistry and Cell Physiology)

### **RUSSIAN SCIENCE FOUNDATION GRANT FOR CONDUCTING BASIC RESEARCH AND SCIENTIFIC SEARCH BY ESTABLISHED LABORATORIES (1 PROJECT)**

14-21-00066 Research project No.14073 for 2014–2016

Functional analysis methods for studying the problems of equations of mathematical physics

Head Researcher – Professor V. G. Zvyagin, DSc in Physics and Mathematics (Mathematics Research Institute)



## **RUSSIAN SCIENCE FOUNDATION GRANT FOR CONDUCTING BASIC RESEARCH AND PILOT STUDY WITH THE PARTICIPATION OF YOUNG SCIENTISTS (2 PROJECTS)**

15-13-10036 Research project No.15019 for 2015–2017

Development of new potentiometric sensors based on hybrid membranes for the express analysis of aminoacids and vitamins in water and nutritional solutions

Head Researcher – Professor O. V. Bobreshova, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

15-11-10022 Research project No.15024 for 2015–2017

Statistical methods of signal location and of extent of signal detection for signals and images in the domain of their existence

Head Researcher – Professor A. P. Trifonov, DSc in Technical Sciences (Faculty of Physics, Department of Radiophysics)

## **RUSSIAN SCIENCE FOUNDATION GRANT FOR CONDUCTING BASIC RESEARCH AND PILOT STUDY IN TOP-PRIORITY SPECIAL RESEARCH AREAS (1 PROJECT)**

15-15-00137 Research project No.15016 for 2015–2017

Investigation of amniotic lavage mechanism in the treatment of threatened premature delivery of infectious genesis

Head Researcher – Professor M. N. Chirikov, DSc In Medicine (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

## **THE RUSSIAN FOUNDATION FOR BASIC RESEARCH GRANTS (67 PROJECTS)**

### **INITIATIVE PROJECTS**

14-05-00722 Research project No.14031 for 2014–2016

Monitoring the region and mapping the ecological and geochemical factors influencing the health of the people living in the Central Black Earth Region

Head Researcher – Professor S. A. Kurolap, DSc in Geography (Faculty of Geography, Geoecology and Tourism, Department of Geoecology and Environmental Monitoring)

14-02-00516 Research project No.14035 for 2014–2016

Atomic and ion optical frequency standards

Head Researcher – Professor V. D. Ovsyannikov, DSc in Physics and Mathematics (Faculty of Physics, Department of Theoretical Physics)

14-04-00264 Research project No.14032 for 2014–2016

Dolichopodidae (Diptera) classification, fauna, and genesis in Russia and neighbouring territories

Head Researcher – Professor O. P. Negrobov, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Ecology and Systematics of Invertebrates)

14-01-00141 Research project No.14038 for 2014–2016

Functional Banach spaces geometry and operator classes

Head Researcher – Professor E. M. Semenov, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Geometry and Functional Theory)



14-07-00713 Research project No.14030 for 2014–2016

Studying and developing methods for the control of information transfer in wireless sensor networks and telecommunications networks similar to physical processes of matter and energy transfer in order to enhance stability, capacity, and energy efficiency of wireless networks

Head Researcher – Professor Yu. B. Nechaev, DSc in Physics and Mathematics (Faculty of Computer Sciences, Department of Information Systems)

14-04-00805 Research project No.14037 for 2014–2016

The role of intracellular calcium and expression of the PIF3 transport factor in the phytochrome signal transduction; the importance of methylation of succinate dehydrogenase subunits' gene promoters in plants under changing lighting conditions and nutrition type

Head Researcher – Professor A. T. Epryntsev, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Biochemistry and Cell Physiology)

14-01-00867 Research project No.14039 for 2014–2016

Management problems in mathematical models of a complex physical medium

Head Researcher – Professor A. D. Baev, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Mathematical Analysis)

14-08-00610 Research project No.14033 for 2014–2016

Percolation effects in metal-polymer nanocomposites as the basis for a new technology for the complete protection of water heating systems from oxygen-type corrosion

Head Researcher – Professor T. A. Kravchenko, DSc in Chemistry (Faculty of Chemistry, Department of Physical Chemistry)

14-02-00666 Research project No.14034 for 2014–2016

Creep and sliding of domain walls in low dimensional ferroelectrics

Head Researcher – Professor A. S. Sidorkin, DSc in Physics and Mathematics (Faculty of Physics, Department of Experimental Physics)

13-08-00935 Research project No. 13016 for 2013–2015

New functional nanostructured materials based on metals and ion-exchange polymers that can be used as catalytic agents and electrocatalysts

Head Researcher – E. V. Zolotukhina, PhD in Chemistry (Faculty of Chemistry, Department of Physical Chemistry)

13-02-00447 Research project No. 13010 for 2013–2015

Effective-range theory for a molecular system in a strong light field applied to the generation of harmonics of laser radiation

Head Researcher – Professor M. V. Frolov, DSc in Physics and Mathematics (Faculty of Physics, Department of Theoretical Physics)

13-03-01013 Research project No. 13017 for 2013–2015

New methods for synthesizing photovoltaic sulphide materials

Head Researcher – Professor A. Yu. Zavrazhnov, DSc in Chemistry (Faculty of Chemistry, Department of General and Inorganic Chemistry)

13-03-00705 Research project No. 13018 for 2013–2015

V<sub>2</sub>O<sub>5</sub> as an oxidation catalyst and a modifier of the boundary line and nanostructure of nanoscale thin films on InP and GaAs

Head Researcher – Professor I. Ya. Mittova, DSc in Chemistry (Faculty of Chemistry, Department of Materials Science and Nanosystems Technologies)



13-01-00773 Research project No. 13024 for 2013–2015

**Statistical analysis of generalized signals' energy detection**

Head Researcher – Professor V. I. Kostylev, DSc in Physics and Mathematics (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Technical Cybernetics and Control Theory)

13-01-00041 Research project No. 13019 for 2013–2015

**Application of topological methods in nonlinear hydrodynamics problems, optimal management problems and stochastic analysis**

Head Researcher – Professor V. G. Zvyagin, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Algebra and Topological Analysis Methods)

13-01-00378 Research project No. 13028 for 2013–2015

**Methods of representation theory for groups, semigroups, and Banach algebras in the spectral analysis of linear operators and linear order relations**

Head Researcher – Professor A. G. Baskakov, DSc in Physics and Mathematics (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Mathematical Methods of Operations Research)

13-02-00420 Research project No. 13022 for 2013–2015

**Nonlinear atomic photo-processes in a strong laser field, including short and ultra-short laser pulses**

Head Researcher – Professor N. L. Manakov, DSc in Physics and Mathematics (Faculty of Physics, Department of Theoretical Physics)

15-06-06295 Research project No. 15009 for 2015–2017

**Modelling the sustainable development process of social and economic systems based on a tool for managing the functioning, evolution and interaction of social and economic objects, taking into account energy conservation and energy efficiency**

Head Researcher – Professor N. P. Lyubushin, DSc in Economics (Faculty of Economics, Department of Economic Analysis and Audit)

15-03-09186 Research project No. 15012 for 2015–2017

**Comparative analysis of the growth, structure and properties of calcium phosphate coating on titanium during magnetron sputtering and biomimetic deposition**

Head Researcher – Professor V. M. Ilev, DSc in Chemistry (Faculty of Chemistry, Department of Materials Science and Nanosystems Technologies)

15-07-05341 Research project No. 15010 for 2015–2017

**Basic models of distributed logical production systems for the intelligent processing of large amounts of data**

Head Researcher – Associate Professor S. D. Makhortov, DSc in Physics and Mathematics (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Computer Software Support)

15-02-03402 Research project No. 15005 for 2015–2017

**Describing dual, triple and tetradic fission and 2-proton decay as multistage nuclear processes**

Head Researcher – Professor S. G. Kadmsky, DSc in Physics and Mathematics (Faculty of Physics, Department of Nuclear Physics)

15-02-04280 Research project No. 15006 for 2015–2017

**Developing methods for controlling the luminescence properties of Ag<sub>2</sub>S colloid quantum dots in various environment**

Head Researcher – Professor O. V. Ovchinnikov, DSc in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)



15-08-05031 Research project No.15011 for 2015–2017

The influence of temperature on the transport-structural parameters of heterogeneous ion-exchange membranes and on the electrical convection during electro dialysis of high-intensity current mode

Head Researcher – Professor V. I. Vasilieva, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

15-04-03749 Research project No.15008 for 2015–2017

Molecular and biochemical basis of the mechanism of catabolic pathway of thiosulfate oxidation by sulphur bacteria

Head Researcher – Professor M. Yu. Grabovich, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Biochemistry and Cell Physiology)

15-01-05315 Research project No.15003 for 2015–2017

Indefinite space operators and their application

Head Researcher – Professor T. Ya. Azizov, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Geometry and Functional Theory)

15-04-02326 Research project No.15007 for 2015–2017

Studying the taxonomy of existing and ancient Tingioidea (Heteroptera) of the Eastern Palearctic and analysing their zoogeography, paleogeography, evolution, and phylogeny

Head Researcher – Professor V. B. Golub, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Ecology and Systematics of Invertebrates)

15-01-00620 Research project No. 15004 for 2015–2017

Developing stochastic and global analysis methods in order to study equations and inclusions with mean derivatives and their application

Head Researcher – Professor Yu. E. Gliklikh, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Algebra and Topological Analysis Methods)

### **PROJECT CONTEST FOR ORGANISING LOCAL AND INTERNATIONAL EVENTS FOR YOUNG SCIENTISTS**

15-31-10003 Research project No. 15001 for 2015

Project of the winter school of Mathematics “Modern methods of function theory and related problems”

Head Researcher – Professor A. D. Baev, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Mathematical Analysis)

15-31-10093 Research project No. 15023 for 2015

Project of the 26th spring school of Mathematics “Modern solutions to boundary value problems” in honour of Lev Pontryagin

Head Researcher – Professor A. D. Baev, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Mathematical Analysis)

15-35-10474 for 2015

Organising scientific conference “School of environmental prospects”

Head Researcher – Professor I.I. Kosinova, DSc in Geology (Faculty of Geology, Department of Ecological Geology)



## **ORGANISING AND HOLDING CONFERENCES AND OTHER SCIENTIFIC EVENTS IN RUSSIA**

15-06-20809 Research project No. 15050 for 2015

Organising the 38th International Conference (Scientific Workshop) "Social and Economic Processes System Modelling" in honour of Professor S.S. Shatalin

Head Researcher – Associate Professor I. N. Schepina, PhD in Economics (Faculty of Economics, Department of Information Technology and Mathematical Methods for Economics)

15-03-20815 Research project No. 15049 for 2015

Organising the VII All-Russian conference "Physical and chemical processes in condensed matter and interphase boundaries 2015"

Head Researcher – Professor A. M. Khoviv, DSc in Chemistry (Faculty of Chemistry, Department of Inorganic Chemistry)

## **JOINT INITIATIVE RESEARCH PROJECTS CONTEST OF THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND THE NATURAL SCIENCE FOUNDATION OF CHINA**

14-05-91180 Research project No. 14049 for 2014–2015

3D acoustic effects in shallow sea with permanent and temporary mesoscale heterogeneity and new methods for acoustic probing in the Ocean

Head Researcher – Associate Professor B. G. Katsnelson, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics)

## **JOINT INITIATIVE RESEARCH PROJECTS CONTEST OF THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND THE SCIENCE & TECHNOLOGY DEVELOPMENT FUND OF EGYPT**

15-52-61017 Research project No. 15017 for 2015–2016

Determining the properties of semiconductor nanocrystal chalcogenides with thin films and Sn, Zn, and Cd oxides and their optimisation for flexible solar cells

Head Researcher – Professor E. P. Domashevskaya, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid-state Physics and Nanostructures)

## **THE CONTEST OF RESEARCH PROJECTS CARRIED OUT BY LEADING YOUNG SCIENTIST GROUPS**

15-31-20241 Research project No. 15020 for 2015–2016

Studying the problems of mathematical hydrodynamics and biology using topological analysis methods

Head Researcher – S. K. Kondratiev, PhD in Physics and Mathematics, senior research fellow (Research Institute for Metallurgy)

15-34-50917 Research project No. 15048 for the 2015

Assessing the stability of genetic material of children with different characters living in well-to-do and in troubled families by means of micronucleus tests in buccal epithelium

Head Researcher – Professor V. N. Kalaev, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

15-34-50857 Research project No. 15029 for the 2015

Comparative cytogenetic analysis of indigenous and introduced species of woody plants under conditions of anthropogenic pollution

Head Researcher – T. V. Baranova, PhD in Biology (Botanical Garden)



**CONTEST OF BASIC RESEARCH PROJECTS CARRIED OUT BY GROUPS OF YOUNG RUSSIAN AND BELUSSIAN SCIENTISTS, ORGANISED BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND THE BELUSSIAN REPUBLICAN FOUNDATION FOR FUNDAMENTAL RESEARCH**

15-52-04078 Research project No. 15022 for 2015–2016

Femtosecond dynamics of electronic excitation decomposition in CdS colloid quantum dots in various environments

Head Researcher – Associate Professor M. S. Smirnov, PhD in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

**RESEARCH PROJECTS CONTEST FOR YOUNG SCIENTISTS (MY FIRST GRANT)**

14-05-31329 Research project No. 14003 for 2014–2015

Developing a model for indication of environmental quality by means of GIS-technologies

Head Researcher – S. V. Shekoyan, researcher (Faculty of Geography, Geoecology and Tourism, Department of Geoecology and Environmental Monitoring)

14-08-31731 Research project No. 14041 for 2014–2015

Competing reactions in the process of chemisorption of aldehydes by anion-exchange materials from a processing medium

Head Researcher – Associate Professor I. V. Voronyuk, PhD in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

14-02-31278 Research project No. 14042 for 2014–2015

Low limiting threshold of the near IR radiation in Ag<sub>2</sub>S colloid quantum dots

Head Researcher – T. S. Shatskikh, lecturer (Faculty of Physics, Department of Optics and Spectroscopy)

14-01-31228 Research project No. 14043 for 2014–2015

Solvability, attractors, and optimisation problems for mathematical models of the movement of polymers and fluids with memory

Head Researcher – A. V. Zvyagin, researcher (Mathematics Research Institute)

14-01-31196 Research project No. 14001 for 2014–2015

Spectral theory of linear operators and linear order relation

Head Researcher – Associate Professor V. B. Didenko, PhD in Physics and Mathematics (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Mathematical Methods of Operations Research)

14-04-31664 Research project No. 14048 for 2014–2015

Calcium ions and their role in regulating the expression of succinate dehydrogenase in plant leaves under a changed light pattern by means of a phytochrome system

Head Researcher – Associate Professor D. N. Fedorin, PhD in Biology (Faculty of Biology and Soil Sciences, Department of Biochemistry and Cell Physiology)

14-04-31618 Research project No. 14045 for 2014–2015

Bioenergetic properties of bumblebee's (*Bombus terrestris* L.) flight muscles mitochondria

Head Researcher – M. Yu. Syromyatnikov, research fellow (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

14-04-32174 Research project No. 14050 for 2014–2015

Controlling free-radical homeostasis by means of succinic acid and chitosan derivatives for disorders associated with cerebrovascular pathology

Head Researcher – Associate Professor O. A. Safonova, PhD in Biology (Faculty of Biology and Soil Sciences, Department of Medical Biochemistry and Microbiology)



14-02-31315 Research project No.14004 for 2014–2015

Electronic structure modulation and strong electric field effects in single-wall carbon nanotubes of limited length and super-small diameter

Head Researcher – A. V. Tuchin, post-graduate student (Faculty of Physics, Department of Semiconductor Physics and Microelectronics)

14-04-31644 Research project No.14044 for 2014–2015

Phasiinae (Diptera, Tachinidae) species diversity and their host-parasite relationships with carnivorous Heteroptera

Head Researcher – E. V. Aksenenko, lecturer (Faculty of Biology and Soil Sciences, Department of Zoology and Parasitology)

14-02-31646 Research project No.14047 for 2014–2015

Optical response function and decoherence mechanisms of CdS colloid quantum dots in various environments

Head Researcher – N. V. Korolev, engineer (Faculty of Physics, Department of Semiconductor Physics and Microelectronics)

14-05-31159 Research project No.14040 for 2014–2015

Origins of Voronezh anteclise pottery clay

Head Researcher – A. V. Krainov, senior lecturer (Faculty of Geology, Department of Historical Geology and Paleontology)

14-01-31318 Research project No.15028 for 2014–2015

Methods and algorithms for studying approximate and inconsistent linear equations systems, inequations, and nonlinear programming problems

Head Researcher – A. S. Krasnikov, PhD in Physics and Mathematics (Borisoglebsk Branch)

#### **DIRECTED BASIC RESEARCH CONTEST FOCUSED ON CONTEMPORARY INTERDISCIPLINARY PROBLEMS**

13-08-12103 Research project No. 13072 for 2013–2015

Composite perfluorinated membranes with oxide nanoparticles for potentiometric multisensor systems

Head Researcher – Professor O. V. Bobreshova, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

#### **REGIONAL CONTEST “CENTRAL RUSSIA” INITIATIVE PROJECTS**

13-02-97524 Research project No.13060 for 2013–2015

Synthesis and study of ferroelectric nanomaterials and nanostructures with tuneable functional properties

Head Researcher – Professor A. S. Sidorkin, DSc in Physics and Mathematics (Faculty of Physics, Department of Experimental Physics)



- 13-04-97536 Research project No. 13055 for 2013-2015  
**Correcting oxidant status for disorders associated with cerebrovascular pathology**  
 Head Researcher – Professor T. N. Popova, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Medical Biochemistry and Microbiology)
- 13-03-97523 Research project No. 13058 for 2013-2015  
**Structural transformations in iron based amorphous alloys activated with photon processing and pointed load**  
 Head Researcher – Professor V. M. Ievlev, DSc in Chemistry (Faculty of Chemistry, Department of Materials Science and Nanosystems Technologies)
- 13-05-97528 Research project No. 13063 for 2013-2015  
**Developing a scientific basis for assessing the coloured (nickel, copper, cobalt) and precious (platinoids, aurum) strategic metals mineral resources of Elan ore at potential new sites in Voronezh Region and its economic-geological evaluation**  
 Head Researcher – Professor N. M. Chernyshov, DSc in Geology, Associate Member of the Russian Academy of Sciences (Faculty of Geology, Department of Mineralogy, Petrology and Geochemistry)
- 13-04-97516 Research project No. 13051 for 2013-2015  
**Enzymes of the glyoxylate cycle function in the process of the rat's cells metabolism adaptation to experimental diabetes together under the hypoglycemic effect of vegetative protectors**  
 Head Researcher – Professor A. T. Epryntsev, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Biochemistry and Cell Physiology)
- 13-01-97507 Research project No. 13050 for 2013-2015  
**Models and methods of implementing new information technologies for digital watermarking in order to protect digital content**  
 Head Researcher – Professor A. A. Sirota, DSc in Physics and Mathematics (Faculty of Computer Sciences, Department of Information Security and Processing Technologies)
- 13-08-97565 Research project No. 13048 for 2013-2015  
**Developing physicochemical principles of chemisorptive ejection of carbonyl compounds from liquid media by means of polymeric sorbents containing functional amino groups**  
 Head Researcher – T. V. Eliseeva, PhD in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)
- 13-01-97504 Research project No. 13062 for 2013-2015  
**Complex processing of images and signals with unknown parameters using new information technologies**  
 Head Researcher – Professor A. P. Trifonov, DSc in Physics and Mathematics (Faculty of Physics, Department of Radiophysics)
- 13-05-97517 Research project No. 13053 for 2013-2015  
**Regional environmental diagnostics and assessment of natural resources and socio-economic perspectives for stable natural resources management in Voronezh Region**  
 Head Researcher – Professor V. I. Fedotov, DSc in Geography (Faculty of Geography, Geocology and Tourism, Department of Recreational Geography, Country Studies and Tourism)
- 13-03-97501 Research project No. 13054 for 2013-2015  
**Interdiffusion in thin film systems during the formation of the functional properties of nanoscale heterostructures for the creation of a new generation of magnetically sensitive transistors**  
 Head Researcher – Professor A. M. Khoviv, DSc in Chemistry (Faculty of Chemistry, Department of Inorganic Chemistry)



13-03-97502 Research project No. 13056 for 2013–2015

Developing potentiometric multisensor systems using PD-sensors based on nanostructured membranes for controlling household and industrial sewage

Head Researcher – Professor O. V. Bobreshova, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

13-02-97500 Research project No.13061 for 2013–2015

Studying the mechanisms and developing the basics for a biochemical technology of restoration of dental enamel destroyed by caries using nanocrystalline hydroxyapatite-based bioactive materials

Head Researcher – Associate Professor P. V. Seredin, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid-state Physics and Nanostructures)

13-02-97510 Research project No.13052 for 2013–2015

Prognostic computer modelling of nanostructured silicon- and germanium-based functional materials of various scale

Head Researcher – Professor S. I. Kurgansky, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid-state Physics and Nanostructures)

13-04-97524 Research project No.13049 for 2013–2015

Mitochondrial respiration protective role in case of pathologies resulting from oxidative stress

Head Researcher – Professor V. N. Popov, DSc in Biology (Faculty of Biology and Soil Sciences, Department of Genetics, Cytology and Bioengineering)

### **COMPETITION OF JOINT RESEARCH PROJECTS BY THE RUSSIAN FEDERATION AND UKRAINE**

14-04-90403 Research project No.14095 for 2014–2015

Assessing the diversity and structure of the adventive flora of the Eastern Europe forest-steppe in order to conserve the ideal function of specially protected territories

Head Researcher – Professor A. Ya. Grigorievskaya, DSc in Geography (Faculty of Geography, Geoecology and Tourism, Department of Geoecology and Environmental Monitoring)

### **CONTEST OF INITIATIVE RESEARCH PROJECTS BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND ALL-RUSSIAN NON-GOVERNMENTAL FOUNDATION RUSSIAN GEOGRAPHICAL SOCIETY**

13-05-41401 for 2013–2015

Integral assessment and mapping of the environmental state of a large industrial centre (using Voronezh as an example)

Head Researcher – Professor S. A. Kurolap, DSc in Geography (Faculty of Geography, Geoecology and Tourism, Department of Geoecology and Environmental Monitoring)



## RUSSIAN FOUNDATION FOR HUMANITIES GRANTS (7 PROJECTS)

14-03-00491-a Research project No.14051 for 2014–2015

*The legitimacy of norms in rational and irrational legal systems*

Head Researcher – Associate Professor V. V. Denisenko, PhD in Law (Faculty of Law, the Department of the Theory and History of State and Law)

15-04-00250-a Research project No.15021 for 2015–2017

*Meaning as an aspect of active linguistic consciousness of the language speaker (theory and lexicography problems)*

Head Researcher – Professor I. A. Sternin, DSc in Philology (Faculty of Philology, the Department of General Linguistics and Stylistics)

15-06-10765-a Research project No.15025 for 2015–2016

*New organisations as a growth factor of creativity and innovative development of Russian cities within the framework of state social policy*

Head Researcher – I. V. Shershen, PhD in Economics (Institute of Extramural Economic Education)

14-16-36004 a/p for 2014–2015

*Improving project competence of secondary school teachers: methodology, theory, technology*

Head Researcher – Professor N. I. Vyunova, DSc in Pedagogics (Faculty of Philosophy and Psychology, Department of Pedagogics and Pedagogical Psychology)

15-11-36005 a/p Research project No. 15027 for 2015–2016

*Political and intellectual biography of M. L. Magnitsky – history of Russian conservatism*

Head Researcher – Associate Professor A. Yu. Minakov, DSc in History (Faculty of History, Department of Russian History)

15-03-14018 Research project No. 15015 for 2015

*International scientific conference “Recognition of right and formal equality principle”*

Head Researcher – Associate Professor V. V. Denisenko, PhD in Law (Faculty of Law, the Department of the Theory and History of State and Law)

15-11-36605 e(p) Research project No.15026 for 2015

*Archaeological excavation at Alexeevsky the First cemetery*

Head Researcher – Professor A. P. Medvedev, DSc in History (Faculty of History, Department of Archaeology and Ancient History)

## RESEARCH, DEVELOPMENT, AND ENGINEERING PROJECTS BASED ON AGREEMENTS WITH ORGANISATIONS SUPPORTED BY GRANTS FOR THE REALISATION OF HI-TECH INTEGRATED PROJECTS (THE ORDER OF THE RUSSIAN GOVERNMENT No 218 DATED 9 APRIL 2010)

Customer OAO *EFKO*

Research project No. 13006

*Developing a hi-tech industry for the processing and transformation of plant oil and fibre into non-food products*

Head Researcher – Professor Kh. S. Shikhaliev, DSc in Chemistry (Faculty of Chemistry, Department of Organic Chemistry)



## 5.7. PERFORMANCE OF VSU DISSERTATION COMMITTEES

As of 1 January 2016, there are 17 dissertation boards at VSU operating in 37 fields of study (Table 5.5). In 2015, four dissertation boards operating in nine fields of study were closed, and two joint dissertation boards operating in five fields of study were opened. In 2015, there were 19 dissertation boards at VSU operating in 41 fields of study with 99 postgraduate students defending their dissertations in these boards (Table 5.6). The University is now arranging for more joint dissertation boards to be created.

In 2015, 42 postgraduate students defended their dissertations in Voronezh State University dissertation boards, whereas five postgraduate students defended their dissertations at dissertation councils belonging to other universities.

VSU academic staff defended eight PhD dissertations and four doctoral dissertations at Voronezh State University dissertation boards.

All the dissertation boards operate within the integrated information system of the state certification of research, academic and teaching staff. Members of the dissertation boards are required to publish their articles regularly in journals with high impact factor included in the Russian Science Citation Index database. Of great importance are also their h-index (according to the Russian Science Citation Index database and Web of Science) and their citation index in the Russian Science Citation Index database over the last five years.

On the University website (page "State certification of research"), there are lists of dissertation boards and their members, as well as full dissertations texts, dissertation abstracts, applicants' personal information, the information about external reviewers, as well as the reviews on dissertations and dissertation abstracts.

The boards perform a self-initiated check of dissertations for the use of borrowed material without including a reference to the author or the source using the Antiplagiat system.

Table 5.5

## DISSERTATION BOARDS AS OF 1 JANUARY 2016

Code of the dissertation board, fields of study	Chairperson, Academic Secretary contact details
<b>D 212.038.01</b> 09.00.01 – Ontology and Epistemology 09.00.11 – Social Philosophy	<b>Alexander S. Kravets</b> – Chairman <b>Eleonora S. Komissarova</b> – Academic Secretary Phone: +7 (473) 255-08-57 E-mail: dekanat@phypsy.vsu.ru
<b>D 212.038.03</b> 03.01.02 – Biophysics 03.01.04 – Biochemistry	<b>Valeriy G. Artyukhov</b> – Chairman <b>Margarita Yu. Grabovich</b> – Academic Secretary Phone: +7 (473) 220-89-81 E-mail: artyukhov@bio.vsu.ru
<b>D 212.038.06</b> 01.04.02 – Theoretical Physics 01.04.05 – Optics 01.04.07 – Condensed Matter Physics	<b>Boris A. Zon</b> – Chairman <b>Sergey N. Drozhdin</b> – Academic Secretary Phone: +7 (473) 220-87-48 E-mail: zon@niif.vsu.ru
<b>D 212.038.07</b> 110.02.01 – Russian Language 10.02.19 – Linguistic Theory	<b>Alexey A. Kretov</b> – Chairman <b>Tatiana N. Golitsyna</b> – Academic Secretary Phone: +7 (473) 276-92-61 E-mail: a_a_kretov@rambler.ru
<b>D 212.038.08</b> 02.00.01 – Inorganic Chemistry 02.00.04 – Physical Chemistry 02.00.05 – Electrochemistry	<b>Alexander M. Khoviv</b> – Chairman <b>Galina V. Semyonova</b> – Academic Secretary Phone: +7 (473) 220-88-69 E-mail: kcmf@main.vsu.ru
<b>D 212.038.10</b> 01.04.03 – Radiophysics 01.04.10 – Semiconductor Physics 05.13.01 – System Analysis, Management and Information Processing (Radioelectronics, Automatics, Communications)	<b>Andrey P. Trifonov</b> – Chairman <b>Vladimir K. Marshakov</b> – Academic Secretary Phone: +7 (473) 220-89-16 E-mail: trif@phys.vsu.ru
<b>D 212.038.12</b> 07.00.02 – Russian History 07.00.06 – Archaeology	<b>Mikhail D. Karpachev</b> – Chairman <b>Elena Yu. Zakharova</b> – Academic Secretary Phone: +7 (473) 224-75-15 E-mail: m-karpach@mail.ru; ez@hist.vsu.ru
<b>D 212.038.14</b> 10.01.01 – Russian literature 10.01.03 – International Literature (literature of the countries of Germanic and Romance language families)	<b>Viktor M. Akatkin</b> – Chairman <b>Alexander A. Zhitenev</b> – Academic Secretary Phone: +7 (473) 255-99-49, 220-89-41 E-mail: msv2012kafedra@yandex.ru, pravdukhina@phil.vsu.ru
<b>D 212.038.15</b> 08.00.01 – Economics Theory 08.00.05 – Economics and National Economy Management (by field and sphere of activity, including: Labour Economics, Regional Economics)	<b>Tatiana N. Gogoleva</b> – Chairman <b>Galina V. Golikova</b> – Academic Secretary Phone: +7 (473) 228-11-60, Don. 5165 E-mail: tgogoleva2003@mail.ru
<b>D 212.038.16</b> 10.02.04 – Germanic Languages 10.02.05 – Romance Languages	<b>Natalia A. Fenenko</b> – Chairman <b>Ksenia M. Shilikhina</b> – Academic Secretary Phone: +7 (473) 220-41-49 E-mail: shilikhina@rgph.vsu.ru
<b>D 212.038.18</b> 10.01.10 – Journalism	<b>Vladimir V. Tulupov</b> – Chairman <b>Lyubov S. Schukina</b> – Academic Secretary Phone: +7 (473) 274-52-71 E-mail: vlvtul@mail.ru



End of table 5.5

Code of the dissertation board, fields of study	Chairperson, Academic Secretary contact details
<b>D 212.038.19</b> 02.00.02 – Analytical Chemistry 02.00.03 – Organic Chemistry 02.00.21 – Solid State Chemistry	<b>Alexander M. Khoviv</b> – Chairman <b>Nadezhda V. Stolpovskaya</b> – Academic Secretary Phone: +7 (473) 220-84-45, 220-88-69 E-mail: kcmf@main.vsu.ru
<b>D 212.038.20</b> 05.13.17 – Theory of Informatics 05.13.18 – Mathematical Modelling, Numerical Methods and Program Systems	<b>Alexander D. Baev</b> – Chairman <b>Sergey A. Shabrov</b> – Academic Secretary Phone: +7 (473) 220-84-01 E-mail: alexsandrbaev@mail.ru
<b>D 212.038.22</b> 01.01.01 – Substantial, Complex and Functional Analysis 01.01.02 – Differential Equations, Dynamical systems and Optimal Control	<b>Evgeniy M. Semyonov</b> – Chairman <b>Yuriy E. Gliklikh</b> – Academic Secretary Phone: +7 (473) 267-49-03 E-mail: yeg@math.vsu.ru
<b>D 212.038.23</b> 08.00.12 – Accounting, Statistics	<b>Dmitry A. Endovitsky</b> – Chairman <b>Tatiana A. Pozhidaeva</b> – Academic Secretary Phone: +7 (473) 275-57-27 E-mail: tap@umc.vsu.ru
<b>D 212.038.24</b> 01.02.04 – Solid Mechanics 05.13.17 – Theory of Informatic	<b>Alexander I. Shashkin</b> – Chairman <b>Irina E. Voronina</b> – Academic Secretary Phone: +7 (473) 220-83-22, 220-82-66 E-mail: dean@amm.vsu.ru
<b>D 999.010.03</b> 13.00.01 – General Pedagogics, History of Pedagogics and Education 13.00.08 – Theory and methods of vocational education	<b>Natalia I. Viyunova</b> – Chairman <b>Irina F. Berezhnaya</b> – Academic Secretary Phone: +7 (473) 255-72-01 E-mail: beregn55@mail.ru
<b>D 999.044.03</b> 12.00.01 – Theory and History of State and Law, History of State and Law Studies 12.00.02 – Constitutional Law, Constitutional Proceedings, Municipal Law 12.00.14 – Administrative Law; Administrative Procedure	<b>Gennady A. Borisov</b> – Chairman <b>Yury N. Starilov</b> – Vice Chairperson <b>Alexey N. Niphanov</b> – Academic Secretary Phone: +7 (473) 255-07-19 E-mail: D999.044.03@bsu.edu.ru

Table 5.6

## PHD DISSERTATIONS DEFENDED AT VSU DISSERTATION BOARDS IN 2015

Code of the dissertation board	Code of the fields of study that the board is approved to operate in	The number of dissertations considered in 2015						
		PhD				DSc		
		Total	VSU staff members	VSU postgraduate students (graduated in 2014–15)	External applicants	Total	VSU staff members	External applicants
D 212.038.01	09.00.01 – Ontology and Epistemology	–	–	–	–	–	–	–
	09.00.11 – Social Philosophy	1	1	–	–	–	–	–
D 212.038.02	03.01.05 – Phytophysiology and phytochemistry	1	–	–	1	–	–	–
	03.02.13 – Soil science	2	–	–	2	–	–	–
D 212.038.03	03.01.02 – Biophysics	4	–	1	3	1	–	1
	03.01.04 – Biochemistry	1	1	–	–	–	–	–
D 212.038.05	03.02.01 – Botany	–	–	–	–	1	–	1
	03.02.08 – Ecology	–	–	–	–	–	–	–
D 212.038.06	01.04.02 – Theoretical Physics	1	–	1	–	–	–	–
	01.04.05 – Optics	1	–	1	–	1	–	1
	01.04.07 – Condensed Matter Physics	2	–	1	1	–	–	–
D 212.038.07	10.02.01 – Russian Language	6	–	5	1	1	–	1
	10.02.19 – Linguistic Theory	1	–	–	1	–	–	–
D 212.038.08	02.00.01 – Inorganic Chemistry	–	–	–	–	–	–	–
	02.00.04 – Physical Chemistry	3	1	2	–	–	–	–
	02.00.05 – Electrochemistry	4	1	2	1	–	–	–
D 212.038.10	01.04.03 – Radiophysics	3	–	2	1	–	–	–
	01.04.10 – Semiconductor Physics	1	–	1	–	1	1	–
	05.13.01 – System Analysis of Management and Information Processing	–	–	–	–	–	–	–
D 212.038.12	07.00.02 – Russian History	1	–	–	1	2	2	–
	07.00.06 – Archaeology	1	–	–	1	–	–	–
D 212.038.14	10.01.01 – Russian literature	3	1	–	2	–	–	–
	10.01.03 – International Literature (literature of the countries of Germanic and Romance language families)	2	–	–	2	–	–	–
D 212.038.15	08.00.01 – Economics Theory	2	–	1	1	–	–	–
	08.00.05 – Economics and National Economy Management (by field and sphere of activity, including Labour Economics, Regional Economics)	4	–	2	2	–	–	–
D 212.038.16	10.02.04 – Germanic Languages	–	–	–	–	–	–	–
	10.04.05 – Romance Languages	1	–	1	–	–	–	–
D 212.038.17	25.00.23 – Physical Geography and Biogeography, Soil Geography and Landscape Geochemistry	1	1	–	–	–	–	–
	25.00.24 – Economic, Social and Political Geography	1	–	–	1	–	–	–
	25.00.36 – Geo-ecology	2	1	1	–	–	–	–



End of table 5.6

Code of the dissertation board	Code of the fields of study that the board is approved to operate in	The number of dissertations considered in 2015						
		PhD				DSc		
		Total	VSU staff members	VSU postgraduate students (graduated in 2014–15)	External applicants	Total	VSU staff members	External applicants
D 212.038.18	10.01.10 – Journalism	8	1	2	5	1	–	1
D 212.038.19	02.00.02 – Analytical Chemistry	1	–	1	–	1	1	–
	02.00.03 – Organic Chemistry	1	–	1	–	–	–	–
	02.00.21 – Solid State Chemistry	1	–	1	–	–	–	–
D 212.038.20	05.13.17 – Theory of Informatics	–	–	–	–	–	–	–
	05.13.18 – Mathematical Modelling, Numerical Methods and Program Systems	8	–	4	4	–	–	–
D 212.038.22	01.01.01 – Substantial, complex and functional analysis	6	–	3	3	–	–	–
	01.01.02 – Differential Equations, Dynamical systems and Optimal Control	7	–	4	3	1	–	1
D 212.038.23	08.00.12 – Accounting, Statistics	2	–	2	–	–	–	–
D 212.038.24 (closed 14.01.2016)	01.02.04 – Solid Mechanics (Physics and Mathematics)	3	–	2	1	–	–	–
	05.12.17 – Theory of Informatics (engineering sciences)	1	–	1	–	–	–	–
D 999.01.03	13.00.01 – General Pedagogics, History of Pedagogics and Education	1	–	–	1	–	–	–
	13.00.08 – Theory and methods of vocational education	1	–	–	1	–	–	–
D 999.44.03	12.00.01 – Theory and History of State and Law, History of State and Law Studies	–	–	–	–	–	–	–
	12.00.02 – Constitutional Law, Constitutional Proceedings, Municipal Law	–	–	–	–	–	–	–
	12.00.14 – Administrative Law; Administrative Procedure	–	–	–	–	–	–	–
	<b>Total: 99</b>	<b>89</b>	<b>8</b>	<b>42</b>	<b>39</b>	<b>10</b>	<b>4</b>	<b>6</b>



## 5.8. CENTRE FOR COLLECTIVE USE OF SCIENTIFIC EQUIPMENT OF VORONEZH STATE UNIVERSITY

1. In 2015, the Centre purchased several items of modern scientific equipment:

- Malvern Zetasizer ZSP particle characterisation system.
- AKTA Start Chromatography System.
- Akta Pure 150L chromatograph – purification system for biomacromolecules from microgram levels to tens of grams of the target product in research applications.
- PT-PC 75840RMC-Boeckeler ultramicrotome for ultra-thin and semi-thin sectioning.
- Rotary-Pumped Sputter Coater Q 150R ES-Quorum.
- Nikon ECLIPSE Ni-ENi-U microscope.

2. New measurement techniques were developed:

- Method for studying thermal phase transition of solid and liquid samples over a wide temperature range.
- Method for registering the spatial structure of various microscopic objects by means of confocal laser microscopy.
- Method for determining the genotoxicity of various materials.
- Method for determining the cytotoxicity of various materials.

3. Metrological support

The scope of certification of the research laboratory was extended. The list of services the laboratory provides now includes a new measurement method using a Bruker S8 Tiger X-ray diffractometer. The Centre's database now also includes a larger number of standard samples that are used to verify the results of experiments.

The Bruker S8 Tiger X-ray diffractometer and Atomic absorption spectrometer QUANT-Z-Eta-T were calibrated by the Voronezh Centre of standardization, metrology, and testing (certificate numbers 13/85 and 13/84 respectively).



4. The Centre's equipment has been made available to a larger number of users. To achieve this goal, the following measures were taken.

- The Centre's website was renovated.
- New users were invited to the Centre, including VSU-based SIBs carrying out projects financed by the Foundation for Assistance to Small Innovative Businesses in Science and Technology: OOO *Regional Centre for Efficient Use of Resources* and OOO Magnesian Materials Plant.
- Access to the Centre's equipment was granted to VSU researchers, post-graduates, and students.
- The possibility of opening demonstration and testing laboratories were discussed with the world's leading producers of scientific equipment – Bruker, Shimadzu Scientific Instruments, BioRad, Carl Zeiss, etc. The laboratories will provide an opportunity to learn about modern technologies and equipment.
- Several scientific and educational workshops on contemporary analysis methods were organised jointly with the companies specialising in scientific equipment – OOO Optec (LSM 8 – the new age of confocal laser microscopy), and Mettler Toledo East (Electrochemical analysis. Thermal analysis).
- To raise the awareness of potential customers about the Centre, new leaflets and brochures were designed for the conference "Postgenome technologies in medicine theory and practice". Several videos about the Centre were made by regional news agencies "Vesti Voronezh" and "Argumenty i Fakty".

5. Extending the number of services.

During the two years of working on the project for developing the Centre of Collective Use of Scientific Equipment, which was supported by the Ministry of Education and Science of the Russian Federation, the number of the service areas grew to seven in 2015, and the total number of services grew to 63.



6. Developing regional and interregional cooperation in the area of science and innovation.

- An exhibition of equipment and high-tech developments was organized by Voronezh industrial enterprises and universities. It was visited by Voronezh region governor Aleksey Gordeev and the President of OAO LUKOIL Vagit Alekperov. Place of the event: OOO FPK Kosmos-Neft-Gaz, March 11, 2015 (<http://www.vsu.ru/news/feed/2015/3/5230>).
- A scientific exhibition organised for the delegation of the Japanese Embassy in the Russian Federation was held. The delegation was headed by Ambassador Extraordinary and Plenipotentiary of Japan to the Russian Federation Harada Tukahito, and Japanese business representatives. Place of the event: Voronezh State University, March 23, 2015 (<http://www.vsu.ru/news/feed/2015/3/5289>).
- A presentation of the Centre during the visit of the VSU administration to Rossosh was held. The meeting discussed "Partnership between Voronezh State University and industrial enterprises aimed at creating high-tech production plants". Place of event: Rossosh, March 31, 2015 (<http://www.vsu.ru/news/feed/2015/4/5355>).
- A presentation of the Centre at the meeting of VSU staff members and administrative and business representatives of Novovoronezh was held on April 21, 2015 (<http://www.vsu.ru/news/feed/2015/4/5470>).
- A discussion of cooperation potential in the area of science and innovation was held at the Russian and Chinese rubber forum (April 22, 2015; <http://www.vsu.ru/news/feed/2015/4/5473>).
- A meeting took place with the delegation from the Republic of Austria including Burgomaster Gerald Hauser (a member of the National Council (Parliament) of the Republic of Austria from East Tyrol) and Irina Dshajani (Director General of Progress IV Management GmbH). Place of the event: Voronezh State University, March 17, 2015 (<http://www.vsu.ru/news/feed/2015/6/5758>).



## **5.9. TELECOMMUNICATIONS AND INFORMATION SYSTEM DEVELOPMENT AT VSU IN 2015**

In 2015, VSU's informatisation activities were focused on the following objectives.

### **TELECOMMUNICATION AND WI-FI WIRELESS NETWORK DEVELOPMENT AT VSU**

The University's fibre-optics network was extended, and now connects all the buildings and most of the residence halls. Thanks to the modern equipment, the data transfer rate is now up to 10 Gbit/s.

In 2015, the fibre-optics network was extended to the new Residence Hall 9, where modern communication systems are now available to staff members, and there is a free Wi-Fi zone for students that covers the whole territory of the Residence Hall.

The project to provide wireless access to the network in campus buildings, which was started in 2011 on the initiative of the University administration, is still ongoing. There are now 197 Wi-Fi access points at VSU, 19 of which were installed in 2015. The VSU wireless network now covers almost the whole territory of the University. University staff and students are authorized wireless network access after registering their personal information. The number of wireless network users in VSU is constantly growing. There were 5350 Wi-Fi access requests in 2015 alone.

### **VOICE OVER IP SYSTEM**

In 2015, VSU employees were given the opportunity to use Voice over IP in place of municipal office phone numbers. There are now 378 subscribers at VSU using the Voice over IP network. 54 VoIP phones were purchased and installed in 2015. There is a convenient version of the VoIP phone book on the University's web site.

### **INFORMATION SYSTEMS IN UNIVERSITY MANAGEMENT**

#### **Information support of education process**

In 2015, all the admission campaign procedures (from application submission and to the admission orders publication) were carried out by means of the "Abiturient" information system that has been functioning at VSU for over six years now. The University administration and the admission board were able to monitor the process and immediately track all the changes, both in Voronezh and in all the other VSU branches.



The “Abiturient Online” web portal has been an essential part of the admission campaign for many years. It is great for potential students and their parents as it provides relevant information on the admission procedures, admission tests, and the admission scores for past years. Samples of application and contracts, as well as admission orders and other important documents are also published on the portal (Figure 5.4).

Figure 5.4

## “ABITURIENT ONLINE” WEB PORTAL HOMEPAGE

**Абитуриент Онлайн**

Воронежский государственный университет  
 pt@vsu.ru @abiturionline В контакте с ВГУ Адрес: 394006, г. Воронеж, Университетская площадь, 1  
 +7 (473) 220-85-93

**Поступление**

- Правила приема
- Информация о приеме на обучение по программам бакалавриата, специалитета, программам магистратуры
- Проходные баллы

**Приемная кампания**

- Приказы о зачислении
- Приказ о зачислении в аспирантуру

**Первокурснику**

- Порядок получения мест в общежитии
- Образец заявления на получение места в общежитии
- Постановка на воинский учет
- Социальная стипендия

**Подготовка к поступлению**

- План мероприятий довузовского образования
- Профориентация / Цикл занятий «Я – будущий психолог»
- Подготовительные курсы / бюджетные места / дистанционная подготовка / расписание пробных ЕГЭ
- Научное общество учащихся / требования к оформлению проектов / информационное письмо / программа конференции / доклады

**Олимпиады**

- Инженерная олимпиада школьников Центра России
- Олимпиада «Звезда»
- Олимпиада «Ломоносов»
- Интернет-олимпиада школьников по физике
- Марафон информационных технологий ФКН
- Всероссийский студенческий Турнир Трех Наук

**Об университете**

- Лицензия
- Свидетельство о государственной аккредитации
- Образовательные программы
- История университета
- Университет в цифрах и фактах
- ВГУ в международных и российских рейтингах
- Ректоры вуза
- Почетные доктора
- Преподаватели вуза
- Факультеты и филиалы
- Учебные корпуса и общежития
- Приемная комиссия

**Турнир Трёх Наук**  
 Приглашаем школьников принять участие в конкурсах «Научный эксперимент» и «Научное фото» в рамках Федерального...

**Многопрофильная инженерная олимпиада школьников "Звезда"**  
 Опубликован список допущенных к заключительному этапу Многопрофильной инженерной олимпиады школьников "Звезда"

**Пробный ЕГЭ по географии**  
 27 февраля 2016 года состоится пробный ЕГЭ по географии для учащихся 9-11 классов

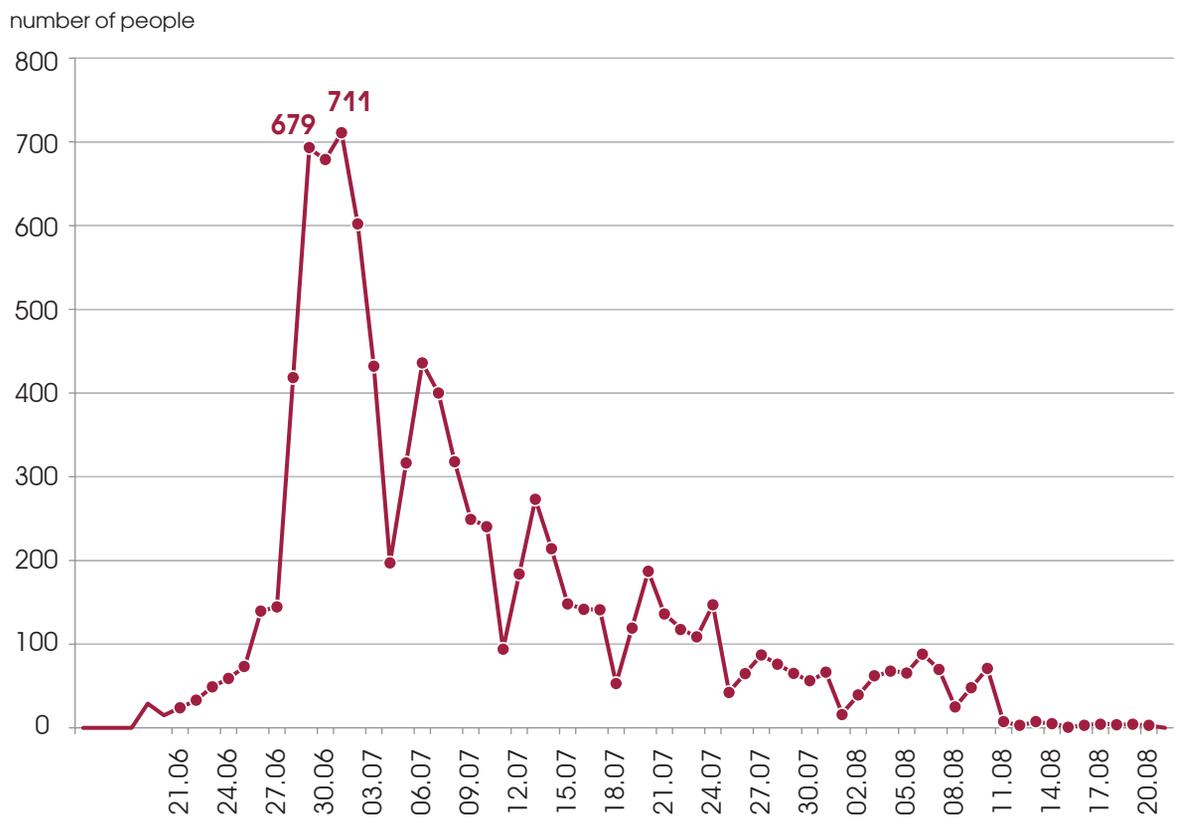
**Многопрофильная инженерная олимпиада "Звезда"**  
 07 февраля 2016 года состоится заключительный (очный) этап Многопрофильной инженерной олимпиады "Звезда" по...



Potential VSU students had the opportunity to fill in their application forms in the University laboratories, where they were assisted by 90 operators. An average of 150 applications were processed every day. The most applications processed per day was over 700 (Figure 5.5).

Figure 5.5

### APPLICATIONS SUBMISSION INTENSITY



Prospective students from other cities were able to use the remote application system based on digital signatures. Their applications were processed by means of an incident management system under the supervision of the Information Technology Administration.

Using the same information system at VSU and its branches (including the Borisoglebsk branch), allowed us to collect and process all the admission campaign data and upload it to the Federal information system for organising State Final Examination and monitoring the admission campaigns by means of a cryptic data transmission channel, which made it cheaper for the University.



## IT support in education

The system of IT support of the education process was introduced at Borisoglebsk VSU branch. In 2015, the system's interface was redesigned in order to adapt it to the specifics of the branch. A series of webinars for users were organised. The system includes information about the University's curricula and the number of students, and automatically performs calculation of the teaching load. By the end of 2015, about 1000 digital assessment sheets were compiled. The results are now being processed.

Information about the post-graduate programmes was also included in the VSU Information system. The results are now being analysed.

## Information support of document flow management

An electronic document flow system based on the "Tezis" system developed by Haulmont was successfully introduced (Figure 5.6).

Figure 5.6

### "TEZIS" EDF SYSTEM INTERFACE

The screenshot displays the "TEZIS" interface with a document list and an open Adobe Reader window. The document in the reader is from the Ministry of Education and Science of the Russian Federation, dated 18.08.2014, regarding the use of the "AntiPlagiat" system. The document text is as follows:

Образовательные организации высшего образования, подведомственные Минобрнауки России

Федеральные органы исполнительной власти, имеющие в ведении высшие учебные заведения

Органы государственной власти субъектов Российской Федерации, осуществляющие управление в сфере образования

Ассоциация негосударственных вузов Российской Федерации

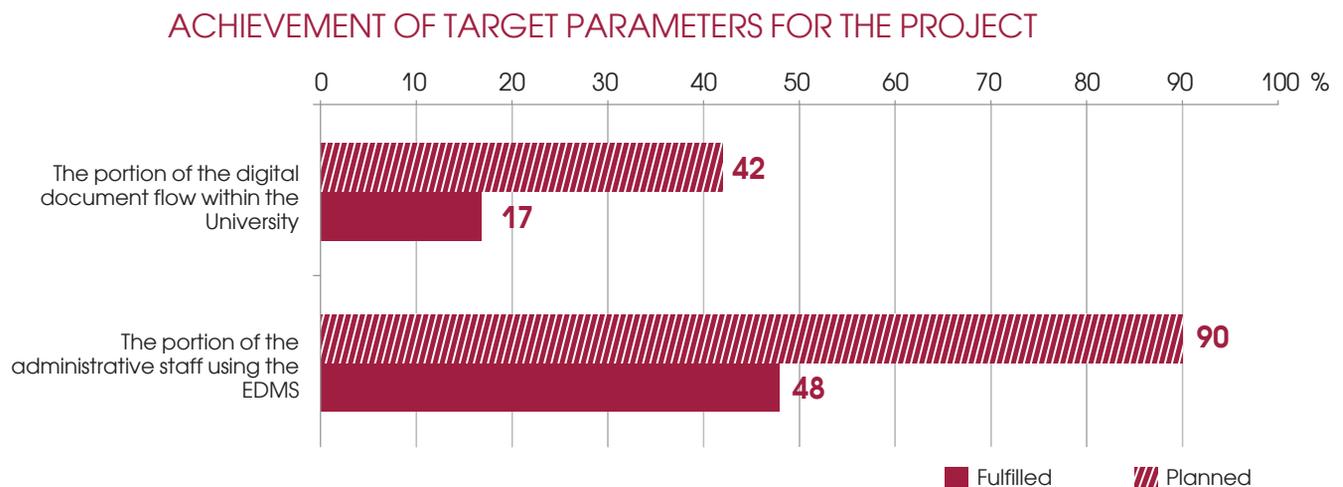
О применении системы «Антиплагиат»

Минобрнауки России просит предоставить в срок до 22 августа 2014 г. информацию, касающуюся применения образовательными организациями высшего образования систем контроля использования в выпускных квалификационных работах (далее – работах) студентов неправомерных заимствований (систем



In 2015, 3 document flow procedures were fully computerised: processing of incoming correspondence, working with administrative documents, and keeping track of the orders given. Over 500 users were granted access to the system, including the rector, the vice rectors and their assistants, deans, heads of the departments, as well as heads of the administrative departments. In 2015, over 18,000 digital documents were processed, and over 5 000 orders were given, of which 4,500 have been fulfilled, and the others are being executed (Figure 5.7).

Figure 5.7



In progress.

### User support services

In 2015, over 260 user requests concerning the University information system were processed. A series of webinars were held.

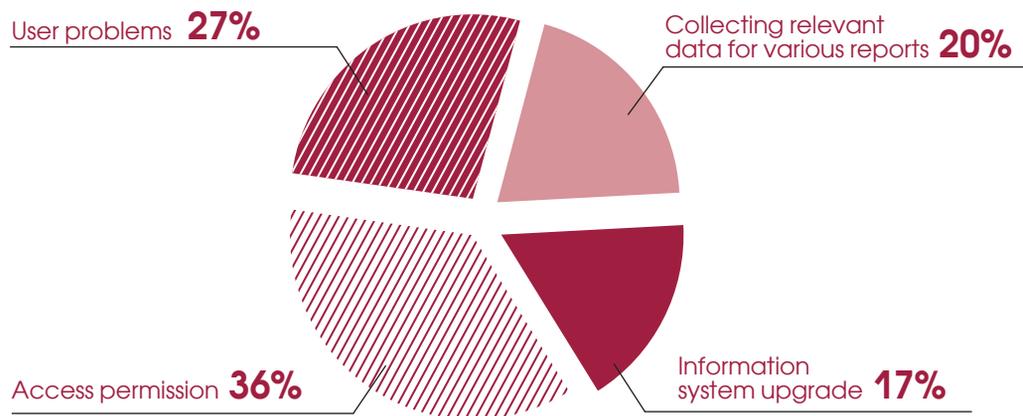
A number of reports were made using the information system data:

- Higher professional education – 1 report.
- A report regarding the diplomas issued in 2015 for the Higher Education Student Data Collection.
- A report about student interactions with lecturers.
- A report about the performance of the post-graduate degree programmes.
- A report for the Federal Statistical Monitoring system.
- The list of candidates for the Grants of the President of the Russian Federation.

Plus over 40 other reports (Figure 5.8).

Figure 5.8

## REQUEST TYPES



In 2015, the number of lecturers using the “Antiplagiat” system to find cases of plagiarism increased significantly. There are now 354 registered users (comparing to 183 users in 2014). 20,349 papers were examined (7,048 papers in 2014).

### VSU official website

In 2015, traffic on the VSU official website ([www.vsu.ru](http://www.vsu.ru)) exceeded one million visits (1,029,380). Page traffic constituted 5,209,718 views with 85% of the visitors using the Russian version of the website. The News page had the most views – 399,888 (7.7% of the traffic), then comes the English version with 85,788 views. The average time spent on the website rose to 18 minutes 14 sec. 95.4% of the visitors were from Russia, 1.3% from the USA, 0.7% from Ukraine, and 0.3% from Germany.

In the 2016 Webometrics Ranking of World Universities, we are in the 1,905th place in the list of world universities (last year it was the 2,162th) and 20th among the universities in Russia (last year we were 24th).

New applications – “Calendar of events” and “A question to the Rector” – were introduced based on a single platform for web applications.

# 5.9

On 1 October 2015, following a directive from the VSU administration, the University Internet Centre launched a new project for renovating the University's official website using modern techniques, a user-friendly interface, and a responsive web design. The design of the new version is shown in Figure 5.9.

Figure 5.9

## VSU OFFICIAL WEB SITE MAIN PAGE

Русский English Deutsch Français Español 汉语 عربي Карта сайта

Версия для слабовидящих  
Сведения об образовательной организации

1918  
ВГУ  
ВОРОНЕЖСКИЙ  
ГОСУДАРСТВЕННЫЙ  
УНИВЕРСИТЕТ  
*Semper in motu*

Google™ Пользовательский поиск

ПОСТУПЛЕНИЕ ОБРАЗОВАНИЕ НАУКА ИННОВАЦИИ МЕЖДУНАРОДНОЕ СОТРУДНИЧЕСТВО БИБЛИОТЕКА АССОЦИАЦИЯ ВЫПУСКНИКОВ ЭНДАУМЕНТ-ФОНД

ЗАПОВЕДНИК «ГАЛИЧЬЯ ГОРА» –  
единственный в мире заповедник,  
принадлежащий вузу

УНИВЕРСИТЕТ ▾ СТРУКТУРА ▾ ДОКУМЕНТЫ ▾ ОБУЧЕНИЕ ▾ РЕЙТИНГИ ▾ ИЗДАТЕЛЬСТВА И ИЗДАНИЯ ▾ ПАРТНЕРСТВО ▾ КОНТАКТНАЯ ИНФОРМАЦИЯ ▾

**АКТУАЛЬНО**

**НОВОСТИ**

**21.12.2015 15:17**  
Проект филологов ВГУ был отмечен на Всероссийской Неделе русского языка в Сочи

**21.12.2015 14:26**  
Концерт-игра для детей из Графского детского санатория от студентов ВГУ

**21.12.2015 14:09**  
Семинар, посвященный 140-летию со дня рождения выдающегося российского лингвиста Николая Соколова

**ОБЪЯВЛЕНИЯ**

**XV международный фестиваль песни и танца народов мира «Возьмемся за руки, друзья!»**

С 5 по 8 декабря в Воронеже будет проходить XV международный фестиваль песни и танца народов мира «Возьмемся за руки, друзья!». Организаторы фестиваля – Институт международного образования Воронежского государственного университета и управление культуры администрации городского округа город Воронеж. Фестиваль проводится в два этапа.

**СЕГОДНЯ**

8:00 Открытие Олимпиады  
Гл. уч. корпус, ауд. 479  
Ответственный: А.И. Шашкин

9:00 Репетиция общеуниверситетского хора  
Гл. уч. корпус, актовый зал  
Ответственный: Ю. Пономарева

14:00 Ученый совет  
Гл. уч. корпус, конференц-зал  
Ответственный: Д.А. Ендовицкий

16:30 Соревнования по тяжелой атлетике  
Гл. уч. корпус, спортивный зал  
Ответственный: Э.А. Беланов

18:00 Открытие Олимпиады  
Гл. уч. корпус, ауд. 479

In 2015, the number of publications on the VSU website amounted to 2,128, including 1,390 news articles, and 236 announcements. In order to improve the quality of projects, a new system of project management was introduced, including a version control system, a release and task management system, and a document management system.

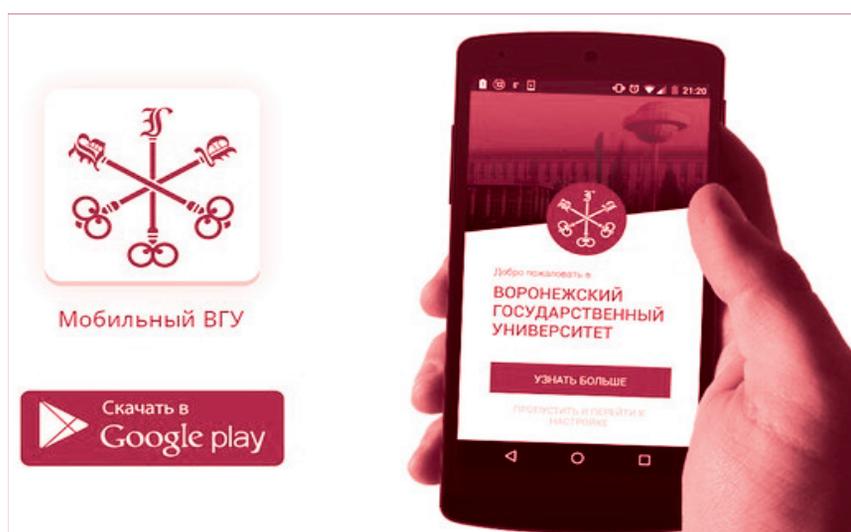


### VSU mobile application

In 2015, a mobile application for iOS and Android designed by a team of students was introduced. The application is called “VSU mobile” (Figure 5.10); it is officially registered as a VSU software product and is a part of the University’s IT system.

Figure 5.10

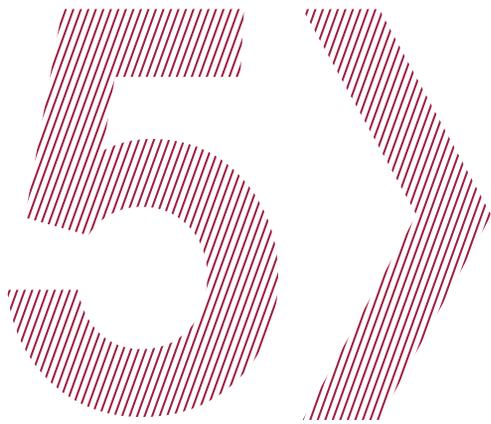
‘VSU MOBILE’



The Information Technology Administration developed specialised modules integrating the application into the IT infrastructure and allowing it to communicate with the other information systems of the University (including the official website). Users should log in to get access to the application. The application also uses the same authentication mechanism as exists for some other VSU systems (e-mail service, Moodle platform, Wi-Fi network, etc.).

### Data Processing Centre of Voronezh State University

The VSU Data Processing Centre (DPC), opened within the framework of the Electronic University project, started successful operations in 2015. The project’s objective is to lower resource-demanding IT-infrastructure maintenance, to maximize the effectiveness of shared resources, save energy, broaden the range of opportunities, and reduce downtime. In 2015, the VSU Data Processing Centre provided information services crucial to administrative and education support divisions.



### **Electronic education technologies**

In 2015, a new service “Open e-courses” became part of the “Electronic University VSU” portal. The service provides links to the portal’s electronic resources available in the demo mode. 13 VSU courses are now available to the service’s users.

### **Developing the functionality of the E-University web portal**

The “Electronic University VSU” portal, [moodle.vsu.ru](http://moodle.vsu.ru), includes the following services:

- A service that binds an e-course to the disciplines from the academic programme curriculum.
- A service that allows the registration of groups of students from the Contingent database for a course according to the academic programme curriculum.
- A service that allows the registration of groups of students from the Contingent database for a course, with no regard to the academic programme curriculum.
- A service that allows deregistration of the students who have completed a course.
- A service that allows the gathering of statistics on the content of an e-course and number of students using it.
- A service that automatically rates e-courses according to their content and the number of students using them (with the option of changing the weighting coefficient according to the course’s specifics).
- The association of the Moodle user authentication with the University e-mail and Wi-Fi authentication systems.
- A service that automatically processes requests from students and teachers requests for access.
- The request processing system is integrated with the University’s incident processing system, Helpdesk OTRS 5.



### **System for collecting education standards, curricula, syllabus, and VSU academic programmes and uploading them to the Internet**

The portal now has special repositories for collecting, storing, and uploading to the Internet the following documents regulating the education process:

- Federal State Educational Standards of the third generation.
- Federal State Educational Standards of the third generation (part-time).
- Federal State Educational Standards of the three-plus generation (secondary vocational education).
- Course syllabuses within the VSU academic programmes.
- Graduate qualification paper for 2015 and 2016.
- VSU Academic Programmes (including reports on the performance self-examination and regulations on State Final Examination and work practice).
- Curricula of the part-time education programmes implemented at VSU in 2014–2015 and 2015–2016.
- Curricula of the secondary vocational education programmes implemented at VSU in 2014–2015 and 2015–2016.

The repositories allow a large number of authorised users – teachers and students responsible for the documents – to upload and publish various documents in the databases. Over 5000 users may use the system at one time without risk of damaging the documents.

The repository of the “Electronic University VSU” portal stores about 40 thousand digital documents: over 30 thousand course syllabuses, over 5 thousand graduate qualification papers, as well as education standards, curricula, academic programmes, etc.



### **VSU off-campus training courses based on Unified State Examination disciplines**

A page for VSU off-campus pre-study courses was created on the web portal. This page contains the information necessary for potential users, such as information about off-campus registration, fees, studies, and how to acquire course graduation certificates. Based on the teaching aids prepared by the lecturers of specific disciplines, VSU Electronic Educational Technologies Department created 12 e-courses based on Unified State Examination disciplines.

The total number of students enrolled is 64.

### **International Tempus projects**

In 2015, the University worked on two education projects within the framework of the international Tempus programmes.

Tempus – Stream Project No. 530397-TEMPUS-1-SK “Strengthening the Lifelong Learning in Environmental Sciences in Russia” was completed. Participants of the project:

- Voronezh State University (the Faculty of Biology and Soil Sciences)
- Far Eastern Federal University
- Kuban State Agrarian University
- National Research Tomsk State University
- Russian State Agrarian University – Moscow Timiryazev Agricultural Academy
- Slovakia University

All the e-courses designed within the framework of the project (with VSU designing 9 of the 51 courses) are available on the VSU Moodle portal and are supported by the VSU Electronic Educational Technologies Department. The courses designed at VSU were used as examples for all the other participants.

Tempus DeTEL 544161-TEMPUS-1-2013-1-UK-TEMPUS-JPCR “Modernising European Language Teaching through the Introduction of Online Technologies in the Process of Teacher Training”.



Participants of the project:

- Aston University
- Voronezh State University (the Faculty of Romance and Germanic Philology)
- Tyumen State University
- Yaroslavl State Pedagogical University
- Uzbek State University of World Languages
- Samarkand State University of Foreign Languages
- Kyiv National Linguistic University

To promote the master's degree programme "Foreign Language Teaching with the Application of Online Technologies" introduced by the Faculty of Romance and Germanic Philology within the framework of the project, a special course "Online Teaching using the Moodle Platform" was designed.

All the courses are available on the e-University web portal. The VSU Electronic Educational Technologies Department ensures the operations of the courses. A 400-page manual "Technical and methodological support of the portal" was created especially for these projects.

Thanks to the work of the VSU Electronic Educational Technologies Department, the University is now one of the leading members within the consortium of the projects' participants.

### **Technical and methodological support for the academic staff. Instructions on working with the "Electronic University VSU" portal**

To provide teachers with technical and methodological support while they are creating e-courses and teaching, a special section "Technical and methodological support of the portal" was created. The section contains forums (both for information and for urgent problems), rules and instructions on how to work with the portal, and how to create and use electronic materials in Moodle. The total volume of the instructions amounts to about 400 typewritten pages.

In 2014 and 2015, 160 lecturers of VSU and other universities learned how to work with the portal and create electronic teaching materials.



## 5.10. BRIEF SUMMARY OF ACHIEVEMENTS IN 2015

The most prominent results of the scientific research, carried out in 2015, were obtained in the following areas:

- **Medical physics.** VSU scientists discovered a nonlinear dependence between the probability of cell death and light intensity during the exposure of cells to low intensity light of the red and blue spectra. The results can be applied in medicine and ecology, particularly when disinfecting liquid and gaseous media by means of visible radiation (project supervisor – Professor B.A. Zon).
- **Radiophysics.** An ultra-wide band TEM horn multifunctional dielectric loaded antenna was designed that can significantly increase the upper frequency limit (project supervisor – Professor A.M. Bobreshov).
- **Nanoelectronics.** VSU scientists developed a new formation method of controllable nanocomposite materials based on the difference in proportion and location of their components. This method can be used for designing micro- and nanoelectronic devices with better non-volatile membraneless parameters, and wireless devices with variable parameters such as capacitors, filters, piezoelectric converters, and pyroelectric detectors of IR light (project supervisor – Professor A.S. Sidorkin).
- **Materials Science.** A new method was suggested for producing composite membranes from thin films of metals that will have higher hydrogen permeability and selectivity than those that currently exist. The method can be applied in the production of hydrogen ultra-purification selective filters (project supervisor – Professor V.M. Ievlev, Full Member of the Russian Academy of Sciences).

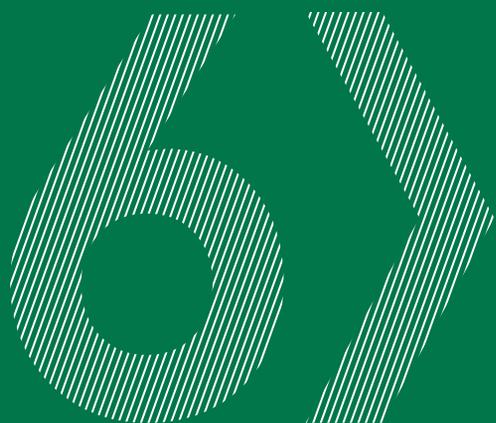


- **Nanotechnologies.** Development of nanostructured hybrid membranes for reagentless express identification of ion elements in aqueous-organics medium. Hardware-software systems based on the new method will provide for better monitoring of processing media such as household and industrial sewage as well as food, pharmaceutical and medical products (project supervisor – Professor O.V. Bobreshova)
- **Organic Chemistry.** New technology was suggested for producing emollient compositions, foam booster compositions, and viscosity compositions based on natural materials – plant oil and fibre. The technology uses renewable materials that are recycled and transformed into high-tech products. The new technology can be used in the cosmetic, pharmaceutical, construction, and chemical industries (project supervisor – Professor Kh.S. Shikhaliev).
- **Physical chemistry and electrochemistry.** VSU scientists developed a new theory for aggregate stable micro- and nanodispersion metal-polymer and carbon conductor materials. The results can be used to create systems for the deep deoxygenation of water solutions and reusable supercompact energy storage devices (project supervisor – Professor T.A. Kravchenko).
- **Geology.** The first digital metamorphic map of Russia was drawn. This large-scale map together with the databases and a GIS-Atlas of time slices (from the Archaean to the Cenozoic) allows researchers to assess the resources of the metamorphic complexes in Russia and make forecasts about metamorphogenic fossils (project supervisor – Professor K.A. Savko).





## INNOVATION ACTIVITIES AND TECHNOLOGY COMMERCIALIZATION





## INNOVATION ACTIVITIES AND TECHNOLOGY COMMERCIALIZATION



**Tatiana DAVYDENKO**

Vice Rector for Innovations  
and Technology  
Commercialization

### 6.1. VSU INNOVATION ACTIVITY AND RESEARCH AND DEVELOPMENT COMMERCIALIZATION GOALS FOR 2015

#### MAJOR INNOVATION ACTIVITIES AND RESEARCH AND DEVELOPMENT COMMERCIALIZATION GOALS FOR 2015:

1. To establish an integrated system of intellectual activity resulting in legal protection, assessment, record, and their transfer under licence agreements.
2. To establish a system to generate and implement economically significant innovation projects in cooperation with industrial enterprises.
3. To increase the percentage of business plans and innovation projects in knowledge-intensive technologies, among other things in the framework of the Innovation Projects contest of Voronezh State University.
4. To develop a system for engaging young researchers in innovative activities.
5. To enhance the promotion of knowledge-intensive projects and technologies in Technology Transfer networks.
6. To conduct the following VSU's innovation projects by implementing a project-based approach to the university's management processes:



- To continue research projects as commissioned by Russian and international hi-tech organisations.
  - To develop Engineering Centre of Innovative Technologies for the Extraction of Mineral Resources.
  - To modernize of the Innovation Portal and creation of the VSU Atlas of Innovative Projects.
  - To build up VSU's international competitiveness.
  - To develop VSU Publishing House (continued).
7. To assist the Alumni Association.
  8. To assist VSU's Endowment Management Fund.
  9. To organize the meetings of VSU's Board of Trustees.

### **BASIC INNOVATION MANAGEMENT SERVICES SET FOR 2015:**

- Formation of small innovative businesses (SIBs) teams, training company employees.
- Organisation and support of exhibitions.
- Preparation and follow-up of projects financed by various sources of funding.
- To provide consultation and organizational support to small innovative businesses regarding their registration and operation.
- Patent research, intellectual property (IP) legal protection, intellectual property assessment and record keeping.
- Execution of license agreements (agreements on the cession of rights) granting the right to use the results of intellectual activities.
- Teaching the further education programme "Intellectual Property Management".
- To organize employment assistance events for graduates.
- To provide consultation service to regional organisations that support small and medium businesses.
- To provide information and resources to support third-party projects that are focused on the promotion of business activities in the Voronezh region.



## 6.2. VSU INNOVATION FINANCIAL SUPPORT IN 2015

(Continued as a part of a project-based management target approach “Conducting Research Projects Commissioned by Russian and International Hi-Tech Organisations”)

### FINANCIAL RESULTS OF THE DEPARTMENT OF INNOVATIONS AND ENTERPRISE MANAGEMENT IN 2015

The financial basis of Voronezh State University’s (VSU, the University) innovative activities in 2015 included federal financing, VSU’s own extra-budgetary funds, as well as funding from industrial companies and organisations.

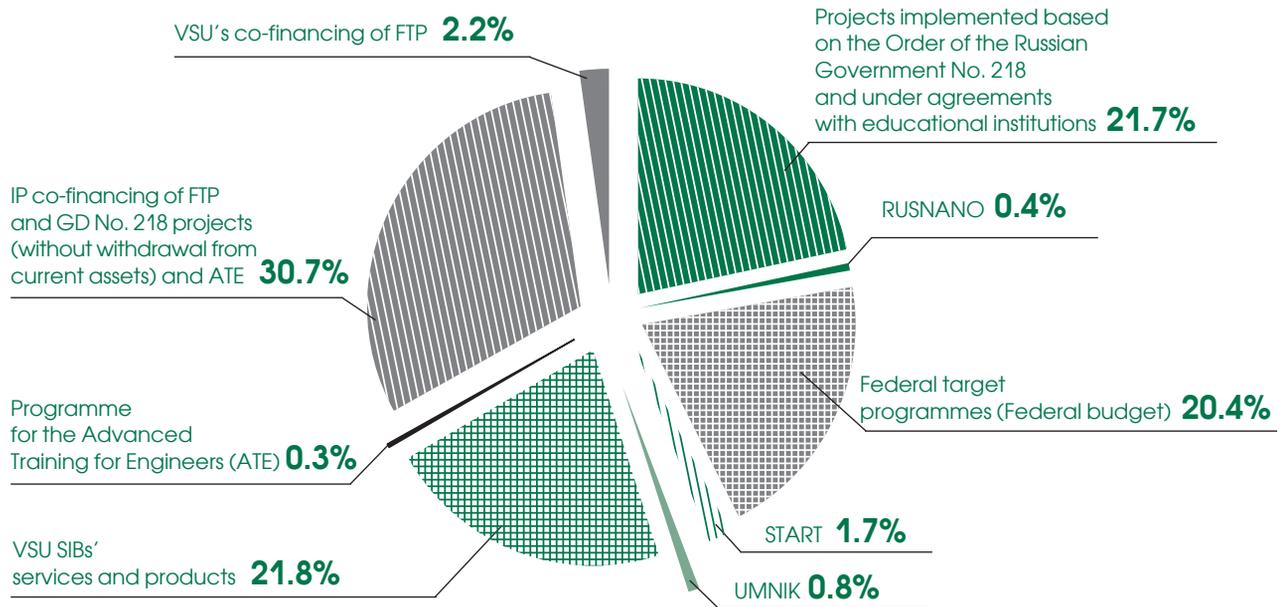
The consolidated financial results from innovation activities, including SIB revenues, co-financing of industrial partners, financing from the Foundation for Assistance to Small Innovative Businesses in Science and Technology, and other sources, amounted to 350,609.15 thousand roubles (in 2014 – 365,203.14 thousand roubles), including:

- 76,000 thousand roubles provided under the Order of the Russian Government No. 218 for the financing of corporate projects.
- 71,620 thousand roubles financing from federal target programmes (FTP).
- 645 thousand roubles federal financing from the Programme for the Advanced Training for Engineers.
- 1,486.8 thousand roubles financing from the Fund for Infrastructure and Educational Programmes (RUSNANO).
- 8,709.41 thousand roubles financing from the Foundation for Assistance to Small Innovative Businesses in Science and Technology (START and U.M.N.I.K programmes).
- 107,797.94 thousand roubles from co-financing– by industrial partners of projects covered by FTP and the Order of the Russian Government No. 218 (without withdrawal from current assets) and the Programme for the Advanced Training for Engineers.
- 76,400.4 thousand roubles revenue from of VSU SIB products (activities, services).
- 150 thousand roubles revenue from projects implemented under agreements with educational institutions.
- 7,800 thousand roubles of VSU’s own funds (projects co-financing) (Figure 6.1).

Total innovation project and infrastructure development funding was over 149,901.8 thousand roubles (in 2014 – 171,264.74 thousand roubles).

Figure 6.1

CONSOLIDATED FINANCIAL RESULTS FROM VSU'S INNOVATION ACTIVITIES IN 2015



OVERVIEW OF INNOVATION PROJECTS IMPLEMENTED IN 2015

In 2015, VSU researchers worked on 11 innovation projects, including the projects under:

- The Order of the Russian Government No 218 of 9 April 2010 "State Support for the Development of Cooperation between Russian Educational Institutions of Higher Education, State Research Institutions, and Organisations that Implement Integrated Hi-Tech Production Projects as a Part of the Sub-Programme "Institutional Development of the Research Sector" of the State Programme of the Russian Federation "Development of Science and Technologies for 2013-2020".
- The federal target programmes of the Ministry of Education and Science "Research and Development in top-Priority Areas of science and Technology in Russia for 2014-2020" and "Development of the Pharmaceutical and the Medical Industries of the Russian Federation for the Period up to the Year 2020 and beyond".
- The department target programme of the Ministry of Education and Science "Advanced Training for Engineers for 2015-2016".
- Programmes of the Fund for Infrastructure and Educational Programmes (ROSNANO).

See data for implemented innovation projects in Table 6.1.

Table 6.1

## INNOVATION PROJECTS IMPLEMENTED IN 2015

No	Projects	Industrial Partner	Head Researcher	Duration of the Programme
<b>Order of the Russian Government No 218</b>				
1	Project "Developing a Hi-Tech Industry for Plant Oil and Fibre Processing and Transformation into Non-Food Products"	OAO <i>Efirnoye</i>	DSc (Chemistry), professor Kh. S. Shikhaliev	01.01.2013–31.12.2015
<b>The federal target programme "Research and Development in Top-Priority Areas of Science and Technology in Russia for 2014-2020"</b>				
2	Activity 1.2 "Nanosystems Industry", the project "Development and Enhancement of Nanomaterials Nuclear Physical and X-Ray Diagnostic Methods"	AO VZPP – <i>Mikron</i>	DSc (Physics and Mathematics), professor E. P. Domashevskaya	11.08.2014–31.12.2016
3	Activity 1.2 "Nanosystems Industry", the project "Development of a Programming and Computing Suite for the Computer Modelling of Structural, Sorption, and Electronic Properties of Fullerenes and Carbon Nanotubes and Adsorption Processes"	OOO <i>Manufacturing Company Tekhpromsintez</i>	DSc (Chemistry), professor E. V. Butyrskaya	21.10.2014–31.12.2016
4	Activity 1.2 "Bioscience", the project "Development of a Technique for Metastatic Tumour Growth Post-Operation Monitoring by Means of Acellular Freely Circulating Blood DNA Analysis"	OOO <i>Company Khelikon</i>	DSc (Biology), professor V. N. Popov	17.06.2014–31.12.2015
5	Activity 1.3 "Nanosystems Industry", the project "Development of Technological Solutions for the Formation of Nanostructured Hybrid Membranes and Creation on their Basis Potentiometric Multisensor Systems for Water Processing Media Reagentless Express Monitoring"	OOO <i>Voronezhselmash</i>	DSc (Chemistry), professor O. V. Bobreshova	05.06.2014–31.12.2016
6	Activity 1.3 "Natural Resources Management", the project "New technology and Equipment for Synthesizing Nanoscale Magnesian Powders from Recycled Waste of Enriched Amorphous Magnesite Production"	OOO <i>Flux and Magnesian Materials Plant</i>	DSc (Chemistry), professor V. F. Selemenev	22.09.2014–31.12.2016
7	Activity 1.3 "Natural Resources Management", the project "New Technology and Equipment for Synthesizing Nanoscale Magnesian Powders from Recycled Waste of Enriched Amorphous Magnesite Production"	OAO <i>Efirnoye</i>	DSc (Chemistry), professor Kh. S. Shikhaliev	27.10.2015–31.12.2017
8	Activity 3.1.2 "Support and Development of Centres for Collective Use of Scientific Equipment", the project "Studying Molecular Mechanisms of Human's Immunocyte Destruction under UV Radiation and Reactive Oxygen Intermediates"	–	DSc (Biology), professor V.G. Artyukhov	18.08.2014–31.12.2015
<b>The federal target programme "Development of the Pharmaceutical and the Medical Industries of the Russian Federation for the Period up to the Year 2020 and beyond"</b>				
9	Activity 5.22 "Development of New Academic Programmes and Educational Modules for Profession-Oriented Institutions of Higher Education and Secondary Educational Institutions", the project "Development of an Educational Module Set for Master's Programmes in Biology – the Profile "Screening Non-Clinical Study of Medicinal Products"	–	DSc (Biology), professor T. N. Popova	02.10.2015–05.12.2016
<b>The department target programme "Advanced Training for Engineers for 2015-2016"</b>				
10	The project "Development of Continuing Professional Development Programmes and Internships of Engineering Staff "Electronic Components Base Production Technological Processes Automation"	AO VZPP – <i>Sborka</i>	DSc (Physics and Mathematics), professor A. M. Bobreshov	29.09.2015–31.12.2015
<b>The programme of the Fund for Infrastructure and Educational Programmes (ROSNANO)</b>				
11	The project "Working out a Continuing Professional Development Programme of Further Education in the Field of Modern Methods of Analysis of Surface Characteristics in the Manufacture of Nanostructured Coatings"	OAO <i>Turbonasos</i>	DSc (Physics and Mathematics), professor V. A. Kostin	13.10.2015–01.11.2016



## APPLICATIONS SUBMITTED FOR CONTESTS OF INNOVATION PROJECTS IN 2015:

In 2015, 157 applications were submitted for participation in various contests, including:

- In the framework of the FTP “Research and Development in Top-Priority Areas of Science and Technology in Russia for 2014-2020” – two applications were submitted. Support was granted to the project implemented in cooperation with *EFIRNOYE (OAO EFKO)* “Development of Energy-Saving Technologies Used in the Process of Production of Emulsifiers and Emulsifying Systems for Food and Non-Food Industries Based on Raw Materials and their Derivative Products”, Head Researcher – Kh.S. Shikhaliyev.
- In the framework of the Order of the Russian Government No 218 – two applications were submitted for an open contest between organisations for receiving grants for the development of high-tech integrated projects (the sixth and the seventh priority). Support was granted to the project implemented in cooperation with *OOO FPK Kosmos-Neff-Gaz* “Creating High-Tech Production of Efficient Multifunctional Membrane Units for High Purity Hydrogen Evolution from Gas Mixtures Containing Hydrogen”, Head Researcher – Full Member of the Russian Academy of Sciences, professor V.M. Ivlev. The application for the project in cooperation with *Logus-argo* “Creating High-Tech Production of a Next-Generation Mobile Fertilizer, with an On-Board Processor Capable of Making “Intelligent” Decisions and an Eco-Friendly Propulsion System Providing Import Substitution Opportunities in Precision Farming” is under consideration.
- For contests of the Foundation for Assistance to Small Innovative Businesses in Science and Technology (START and U.M.N.I.K programmes): for the START contest – five applications were submitted and four of them received support, and two projects supported in 2014 received further financing; for the programme “Participant of the Youth Scientific and Innovation Contest” “U.M.N.I.K.” – 31 applications were submitted and seven of them received support, and seven projects supported in 2014 received further financing.
- VSU took part in the annual contest held between Voronezh universities “Innovation cup – 2015” (founded by the Government of the Voronezh region) with 39 applications submitted. According to the results of the contest, innovative projects by young VSU researchers took four prizes and the university was acknowledged as the best innovative university of the Voronezh region.
- VSU organised the third innovation project contest – 49 innovation projects were submitted by young scholars and nine of them received awards.



## VSU COOPERATION WITH REGIONAL INDUSTRIAL ENTERPRISES

To attract financing from large and medium businesses for innovation projects, the University continued to present research and development projects by University researchers to regional large and medium industrial enterprises by means of specially organised presentation sessions and “round tables”.

In 2015, VSU organised four presentation sessions for industrial enterprises of the Voronezh region and the Central Black Earth Region in the following industries – Engineering, Radioelectronics and Microelectronics; Ore Mining Industry; Medical and Pharmaceutical Industries; and Machine Building – and three off-site “round tables” in Rossosh, Novovoronezh, and Kursk. Over 100 industrial enterprises and companies, and representatives of government authorities and educational institutions took part in the event. The meetings included presentations of innovative projects by the researchers, demonstrations of the VSU Shared Scientific Equipment Centre research opportunities, and recruitment fairs organised for students by representatives of Human Resource Departments of the companies.

As a result of active cooperation between faculties, researchers, and company representatives, a VSU-based training centre was created in collaboration with OOO NLMK – *Information Technologies* (Lipetsk). PAO *Novolipetsk Steel* (NLMK, Lipetsk) founded 10 4,000 rouble monthly scholarships for university students. Presentation sessions and “round tables” resulted in administrative agreements being concluded between VSU and the enterprises and cooperation in federal projects.

### 6.3. VSU PATENT ACTIVITY (2011–2015)

In 2015, the following instruments were used for the enhancement of patent and license activities:

- Providing information about VSU patent system to academic staff.
- Providing information about patent services in the framework of the U.M.N.I.K. programme of the Foundation for Assistance to Small Innovative Businesses in Science and Technology to young researchers.
- Holding intellectual property master classes for the participants of the Innovation Projects contest.
- Service patent support for VSU SIBs and innovative projects.



In total, in 2015, VSU academic staff created 110 copyrightable intellectual property items (in 2014 – 76), 94 patent and registration certificates applications were filed. The results of the intellectual property activities were used to create four new VSU SIBs.

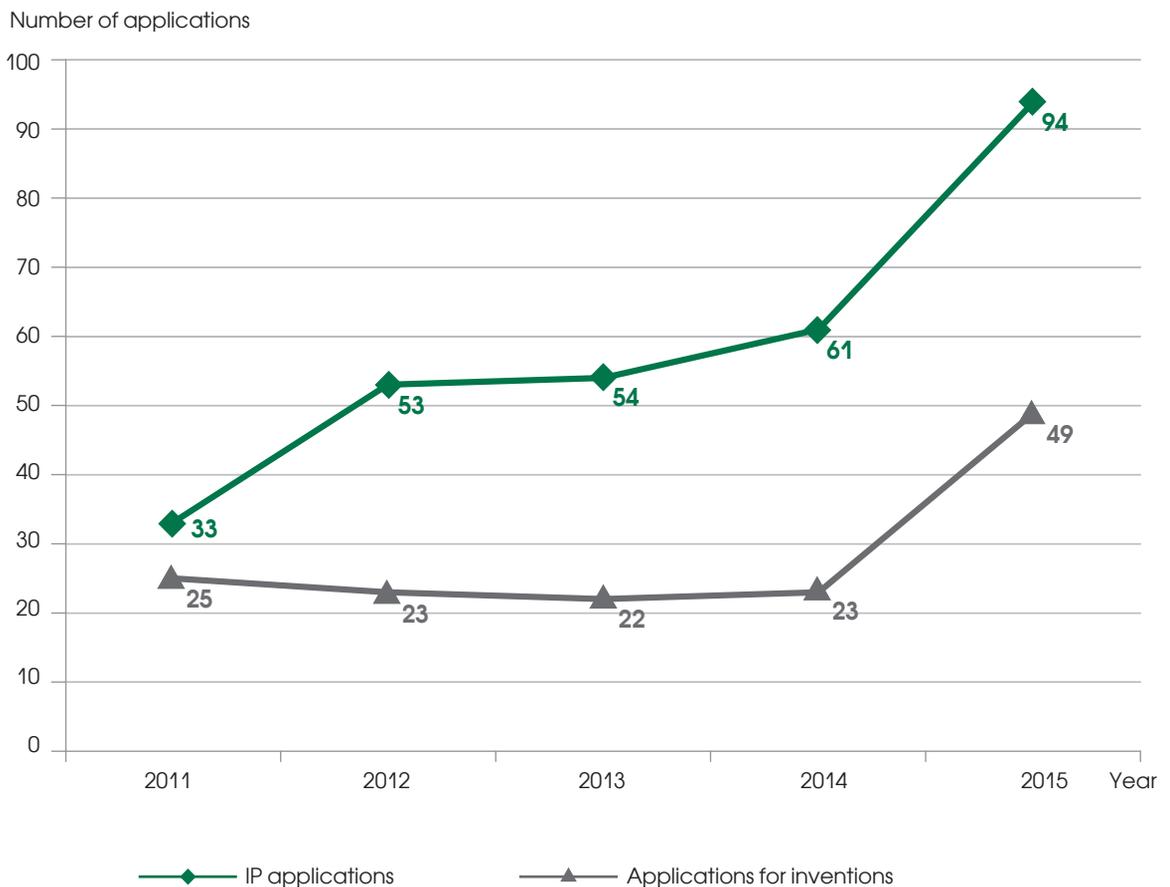
The number of intellectual property (hereinafter –IP) applications increased in 2015 and has had a positive trend over a number of years (and is ahead of target performance indicators of the University’s Strategic Development Programme).

The growth of applications is caused by an increase in applications for inventions and registered software products. The number of applications for inventions against total number of applications almost doubled compared to the previous year and stands at 49 applications.

Figure 6.2 shows IP application dynamics.

Figure 6.2

APPLICATIONS FOR IPS AND INVENTIONS (2011–2015)



As a result of the increase in registered software products, the number of computer programs and database certificates received in 2015 reached 30. The number of patents received was at the same level as the previous year.



## 6.4. IP APPLICATIONS DYNAMICS PER FACULTY

The monitoring of patent activity per faculty has been carried out over the last six years (see Table 6.2). In 2015, The Faculty of Computer Sciences was leading in the number of applications submitted; the Faculty of Chemistry showed the second best result; and the Faculty of Applied Mathematics, Computer Sciences and Mechanics and the Faculty of Pharmaceutics stand together in joint third place. The number of applications submitted by the Faculty of Biology and Soil Sciences has increased.

In 2016, about 130 IP applications are expected from VSU's faculties and other units and at least 36 patents and 30 computer programs and database certificates are expected to be received by the end of the year.

Table 6.2

### IP APPLICATION DYNAMICS (2011–2015)

Faculty	Year	2011	2012	2013	2014	2015
The Faculty of Biology and Soil Sciences		1	7	2	1	10
The Faculty of Computer Sciences		3	8	8	11	23
The Faculty of Pharmaceutics		8	2	6	7	13
The Faculty of Physics		9	6	14	12	6
The Faculty of Chemistry		8	8	15	18	15
The Faculty of Applied Mathematics, Informatics and Mechanics		2	5	11	9	13
The Faculty of Mathematics		–	3	–	–	–
The Faculty of Geology		–	11	–	–	–
The Faculty of Geography, Geoecology, and Tourism		1	–	–	–	1
Other units		1	3	–	3	13
<b>Total</b>		<b>33</b>	<b>53</b>	<b>56</b>	<b>61</b>	<b>94</b>



## PERSONNEL TRAINING FOR THE INNOVATION SECTOR

Two workshops were organised to popularise issues relating to intellectual activity protection. The first workshop was held on 22 April 2015. It included a presentation by the Intellectual Property Protection Department of the VSU Department of Innovation and Business, its goals, areas of activity, and results.

During the second workshop “Protection of Intellectual Property Rights: Key Issues and Potential”, held on 21 May 2015, the Head of the Chemistry Department of the federal state-funded institution Federal Institute of Industrial Property, N.G. Ponomareva spoke about the peculiarities of procedures relating to intellectual property protection.

In 2015, an additional further training academic programme “Intellectual Property Management” was developed and implemented. This was in line with the requirements of educational standards for the development of professional competencies of graduates of various specialities in intellectual property protection and application, as well as with regulations on obligatory protection of results of intellectual activity gained during innovation projects implemented as a part of various programmes and contests, including for students.

## 6.5. INNOVATIVE VENTURES DEVELOPEMENT: SIB ACTIVITIES, COLLABORATION WITH TECHNOLOGY PLATFORM ORGANIZATIONS

### SIBS' PERFORMANCE RESULTS

Small innovation businesses are an important instrument for the commercialization of technologies. In 2015, four new SIBs were created in cooperation with VSU and three existing slow-moving SIBs were closed down. Therefore, 31 SIBs were registered by the end of 2015 (see Table 6.3).

Table 6.3

## LIST OF VSU SIBS

No	SIB's name	Founded in
1	OOO Photo Technologies B	2010
2	OOO Plasma Innovation Technologies	2010
3	OOO TeknoKhim	2010
4	OOO AKMA-Universal	2010
5	OOO Pharmaceutical Innovations	2010
6	OOO Corrosion Institute	2010
7	OOO Pharmaceutical Innovations	2011
8	OOO Voronezh Geological Universal Enterprise	2011
9	OOO Tsitrin	2011
10	OOO Voronezh Ecological Soil Monitoring Enterprise	2011
11	OOO Bumblebee-Keeping Technologies	2011
12	OOO NanoImpulse	2011
13	OOO IEP Ecotechnologies	2012
14	OOO RPE Hydrogeocentre – VSU	2012
15	OOO PlazmoSil	2012
16	OOO Bioint	2012
17	OOO Institute of System Biotechnologies	2012
18	OOO Regional Centre for Efficient Use of Resources	2012
19	OOO Basic Information Technologies B	2013
20	OOO Efficient Management Centre	2013
21	OOO New Technologies Spectrum	2013
22	OOO START	2013
23	OOO VSU Consulting Centre	2013
24	OOO Greensorb-Oil	2014
25	OOO Magnesian Materials Plant	2014
26	OOO Optoferronosilicide	2014
27	OOO NPO Membranes	2014
28	OOO I-Expert Group	2015
29	OOO RST	2015
30	OOO Proffsentr Perspektiva	2015
31	OOO Krousoff	2015

Compared to the previous reporting period, in 2015, cash assets turnover from SIBs was growing, as well as innovation project activity, however, overall, the level of VSU-based intellectual property commercialisation remains rather low. In 2015, VSU products and services from SIB amounted to 76.4 million roubles (in 2014 – 45.7 million roubles).

See turnover from SIBs between 2013 and 2015 in Table 6.4.

Table 6.4

#### VSU CASH ASSETS TURNOVER FROM SIBS (2013–2015), million roubles

Year	2013	2014	2015
Turnover	65.5	45.7	76.4

The following SIBs showed the best results in 2015: OOO *Tsitrin*, OOO *TeknoKhim*, OOO *Akma-Universal*, OOO *Voronezh Ecological Soil Monitoring Enterprise*, OOO *Photo TechnologiesB*, OOO *RPEHydrogeocentre-VSU*, OOO *NanoImpulse*, and OOO *PlazmoSil*.

Due to changes in the legal framework, in 2015, the university's contribution to the capital stock of SIBs was mainly the copyrighting of computer programs and databases. They are transferred by means of a license agreement concluded with a SIB.

The university also continued to transfer (acquire) such intellectual property items as data classified as business secrets through channels other than SIBs. They were transferred (acquired) under license agreements and agreements on the cession of rights. The university worked on project agreements regarding the cession of rights for patented inventions to be concluded between FSFEI HE VSU and OAO *EFKO*.

See indices describing the university's intellectual property transfers and acquisition activities in Table 6.5.

Table 6.5

#### VSU INTELLECTUAL PROPERTY TRANSFER (ACQUISITION) ACTIVITY DYNAMICS

Indices	Year	2010	2011	2012	2013	2014	2015
1. Number of SIBs created		7	7	7	5	4	4
2. Number of license agreements (agreements on the cession of rights) concluded		7	7	7	5	4	5
2.1. Number of SIB-referenced license agreements concluded		7	7	6	4	2	3
2.2. Number of concluded license agreements (agreements on the cession of rights) with no reference to a SIB		–	–	1	1	2 (including 1 agreement on the cession of rights)	2 agreements on the cession of rights
3. Number of existing license agreements (agreements on the cession of rights) – increment total		7	14	21	26	29	31
4. Economic benefits (revenue, cost-cutting) of acquisition/selling license agreements (agreements on the cession of rights), roubles		–	–	50,000	33,322	28,322	66,800



A number of small enterprises continued to receive significant financial support by means of grants in the framework of the “START” programme from the Foundation for Assistance to Small Innovative Businesses in Science and Technology. In 2015, 6 SIB innovation projects received financing totalling 5,909,407 roubles. These are the projects of the following VSU SIBs: OOO *Regional Centre for Efficient Use of Resources*, OOO *Magnesian Materials Plant*, OOO *Basic Information Technologies B*, OOO *NPO Membranes*, OOO *PlazmoSil*, and OOO *NanoImpulse*.

In 2015, the university carried out the following activities aimed at supporting SIBs: assistance in training personnel for SIBs, the development of facilities and resources, research and development financing, and covering some operating expenditures of the companies. Total support exceeded 1,868 thousand roubles.

### COOPERATION WITH TECHNOLOGICAL PLATFORMS

In 2015, VSU continued to cooperate with 10 technological platforms:

- Materials and Technologies of Metallurgy
- Medicine of the Future
- New Polymer and Composite Materials and Technologies
- Radiation Technologies
- Technologies for the Food Processing Industry of AIC – Healthy Food
- Ecological Development Technologies
- Solid Mineral Deposits Technologies
- National Supercomputer Technological Platform
- National Programming Platform
- Innovative Laser, Optical and Optoelectronic Technologies – Photonics

The most efficient cooperation efforts were with the following two technological platforms. Technologies for the Food Processing Industry of AIC and Healthy Food and Ecological Development Technologies. As a result, two projects received recommendations for participation in contests under the framework of the federal target programme “Research and Development in Top-Priority Areas of Science and Technology in Russia for 2014-2020” and following the directive of the Government of the Russian Federation of 23 May 2013 DM-P8-3464 regarding the creation and development of engineering centres.



Three technical proposals for cooperation in innovation projects with BRICS partners (in the framework of Science and Technology cooperation between BRICS countries) were developed within the Ecological Development Technologies technological platform:

1. Technical proposal for the project "Development of a Technology of Production and Application of Substrates Based on Municipal Purification Plant Waste Water Sludge for Quickened Growth of Hardy-Shrub Plants" (Head Researcher – the Head of the Department of Ecology and Land Resources, Associate Professor T. A. Devyatova).
2. Technical proposal for the project "Studying Molecular Mechanisms of Human Immunocyte Destruction under UV Radiation and Reactive Oxygen Intermediates" (Head Researcher – Associate Professor of the Department of Biophysics and Biotechnology I.A. Koltakov).
3. Technical proposal for the project "Method for Assessment of Phreatic Aquifer Transformation in Areas Affected by Fertilizer Manufacturing Facilities" (Head Researcher – Director of SIB OOO Innovation Expert Enterprise Ecotechnologies A. E. Kosinov).

In cooperation with the technological platform Technologies for the Food Processing Industry of AIC – Healthy Food the university presented:

- National Technological Initiative development proposals (following the List of Directives by the Prime Minister of the Russian Federation of 8 December 2014 No. DM-P13-9024).
- Proposals for the development of technological markets over mid- and long-term periods (in the framework of activities carried out by Inter-Departmental Commission for Technological Development).
- Description of two technologies to be included in the list of the best available technologies recommended for introduction by AIC enterprises:
  - 1) Computer vision and seed material quality-assessment systems, allowing high speed object separation (by such parameters as bioavailability, moisture, purity of variety, and defects).
  - 2) Potentiometric multisensor systems for determining water processing media components.

In cooperation with the technological platform New Polymer and Composite Materials and Technologies, the university developed expert data for the assessment of production experience and demand for composite material products in top-priority areas of the economy, as described in the state programme "Industry Development and Competitiveness Enhancement".



## 6.6. OVERVIEW OF INTERMEDIARY COMPLETED INNOVATION PROJECTS RESULTS

In 2015, within the framework of the contest for grants for projects implemented within the Order of the Government of the Russian Federation of 9 April 2010 No. 218 "State Support of Development of Cooperation between Russian Universities and Organisations that Realise Integrated Hi-Tech Production Projects" the following project was implemented in cooperation with OAO *EFIRNOYE* (OAO *EFKO*):

### "DEVELOPING A HI-TECH INDUSTRY FOR PLANT OIL AND FIBRE PROCESSING AND TRANSFORMATION INTO NON-FOOD PRODUCTS".

**Head researcher** – DSc in Chemistry, professor Kh. S. Shikhaliev.

**Duration of the project:** 01.01.2013–31.12.2015.

**Project objectives:** the creation and development of production technologies for new surface-active materials compositions based on natural raw material, including oil and fibre, and their processing waste (VSU development) in the framework of the planned construction of a recycling plant for fat-containing waste (OAO *EFKO* development).

In 2015, the researchers developed processes for the production of emollient compositions, foam booster compositions, foam booster composition components based on natural oils and waste from the production of oils and fats and process procedures for the production of compositions of viscosity increasing agents based on nanocrystalline cellulose produced from fibre and plant industry waste. The following procedures were developed: a procedure for initial testing and approval testing of production processes and procedures for trial operation. The performed tests allowed adjusting the following process procedures: 1) procedures used to produce emollient compositions, foam booster compositions, and components of foam booster composition based on natural oils and wastes from the production of oils and fats; 2) procedures used to produce compositions of viscosity increasing agents based on nanocrystalline cellulose generated from fibre and wastes of plant industry.

The project resulted in three technological processes developed:

- The production of emollient compositions based on natural oils and the waste from the production of oils and fats.
- The production of foam booster compositions and individual components of foam booster compositions based on natural oils and the waste from the production of oils and fats.
- The production of compositions of viscosity increasing agents based on nanocrystalline cellulose produced from fibre and plant industry waste.

The developed processes produce high efficiency cosmetic components.



The staff of the Department of Organic Chemistry of the Faculty of Chemistry took part in the project, including:

- Staff with a DSc degree – 2
- Staff with a PhD degree – 7
- Young researchers with a PhD degree aged under 35 – 3
- Young researchers with no degree – 1
- Engineering and technical assistants (ETA) – 10
- ETA aged under 35 – 3
- Postgraduate students – 4
- Undergraduate students – 5
- Total – 35
- Including young researchers – 16

In 2015, seven projects were implemented within the framework **of the federal target project of the Ministry of Education and Science “Research and Development in Top-Priority Areas of Science and Technology in Russia for 2014–2020”**, including six projects in cooperation with industrial enterprises. The projects implemented in cooperation with industrial enterprises are in line with the top-priority areas for the economic development of the Voronezh region.

### **ACTIVITY 1.2 “NANOSYSTEMS INDUSTRY”**

#### **THE PROJECT “DEVELOPMENT AND ENHANCEMENT OF NANOMATERIALS NUCLEAR PHYSICAL AND X-RAY DIAGNOSTIC METHODS”, THE INDUSTRIAL PARTNER – AO VZPP MICRON.**

**Head Researcher** – DSc in Physics and Mathematics, professor E. P. Domashevskaya.

**Duration of the project** – 11.08.2014–31.12.2016.

#### **Applied research objectives (ARP):**

- Enhancement of X-ray and nuclear physical methods of analysis of thin-film silicone-based nanostructures and hybrid biological nanoobjects (Dps proteins).
- Detection by means of the electron microscopy method of changes in the phase composition of substructural-morphological transformations in thin-film silicone-based nanostructures received during different stages of the crystalline production process flow.
- Development of the technique for the formation of nanomaterials-based passivating coatings based on a stepwise study of thin-film silicone-based nanostructures.



The results of the project included:

- TEM equipment that was prepared for installation of the following software: iTEM Solution EFTEM – software installation chemical elements concentration distribution analysis, iTEM Diffraction – diffraction pattern analysis, and the unique computer-assisted laboratory facilities PCM-500.
- Reference samples were measured by means of USXES method to be used later in procedures specified in time-schedules for high-resolution reference samples. The obtained data were classified, analysed, and prepared for use during the following ARP stages, dealing with the analysis of reference samples of thin-film silicone-based nanostructures, with a breakdown of information layer depth: 10, 30, 60, and 100 nm.
- A complex heterogeneous structure of nanosized “iron cores” of hybrid biological nanoobjects was revealed. The “Iron core” heterogeneous structure can be caused by its formation process.
- The prepared reference spectra collected during the reported period and used to achieve the ARP goals are unique and unprecedented in the area of silicone-based nanostructures X-ray diagnostic technologies.
- Additional applied research was implemented to show the timely character and potential of the developed methods of hybrid biological nanoobjects reference sample diagnostics.
- Demonstrated the possible use of USXES for detailed X-ray analysis of reference samples of thin-film silicone-based nanostructures with non-destructive depth sensing of the information layer of 10 to 120 nm.
- Demonstrated the possibility to use USXES experimental research to study silicone layers grown under production environment by means of pressure and relatively low temperature chemical deposition.
- SAM examination of thin-film silicone-based nanostructures reference samples surface morphology was implemented. It was revealed that all examined reference samples have a compact structure, i.e. they have no porous areas caused by different speeds of material diffusion.
- It was shown that no nitrogen was detected in the area of fracture of any sample examined by EMF. The high carbon content can be explained by the particular nature of the oil-vapour vacuum pumping device used during samples synthesis and examination.
- High-precision experimental data were obtained from X-ray diffraction of thin-film silicone-based nanostructures reference samples. The results show that if nitrous oxide is added to the reactor gas filling it causes the formation of amorphous silicon.
- It was shown that samples with low oxygen, including the samples received without nitrous oxide in the reactor gas filling, can be used to produce nanocrystalline silicon with an average size of 60–70 nm.



- Reference samples from thin-film silicone-based nanostructure Auger spectra were obtained by means of Auger-electron spectroscopy. Experimental Auger electron spectroscopy studies of thin-film silicone-based nanostructure reference samples showed that the Auger spectra peak shape and position correspond to those of the reference samples for all elements and no chemical shift was detected. Monotonous silicon concentration increased during etching which indicated the homogeneity of sample thickness. Augmentation of the correlation  $N_2O/SiH_4 = 0.15$  enables silicon subsurface carbon transient.

The staff of the following departments took part in the project:

- The Department of Solid-State Physics and Nanostructures of the Faculty of Physics.
- The Department of Nuclear Physics of the Faculty of Physics.
- The Department of Materials Science T of the Faculty of Chemistry.
- The Department of Analytical Chemistry of the Faculty of Chemistry.
- The Department of Biophysics and Biotechnology of the Faculty of Biology and Soil Sciences.

Staff breakdown:

Staff with a DSc degree – 6  
 Staff with a PhD degree – 4  
 Young researchers with a PhD degree aged under 35 – 3  
 Young researchers with no degree – 0  
 Engineering and technical assistants (ETA) – 4  
 ETA aged under 35 – 5  
 Postgraduate students – 3  
 Undergraduate students – 1  
 Total – 26  
 Including young researchers – 12

**THE PROJECT “DEVELOPMENT OF A PROGRAMMING AND COMPUTING SUITE FOR THE COMPUTER MODELLING OF STRUCTURAL, SORPTION, AND ELECTRONIC PROPERTIES OF FULLERENES AND CARBON NANOTUBES AND ADSORPTION PROCESSES”, THE INDUSTRIAL PARTNER – OOO MANUFACTURING COMPANY TEKHPROMSINTEZ.**

**Head Researcher** – DSc in Chemistry, professor E. V. Butyrskaya.

**Duration of the project** – 21.10.2014–31.12.2016.

**Applied research objectives:**

- Development of programming and computing suite (PCS) for modelling the structural, electronic, and sorption properties of carbon nanostructured adsorbents for fullerenes and carbon nanotubes and adsorption processes, with enhanced matching accuracy of the characteristics of the simulated adsorbent and the real adsorbent in comparison to existing simulations.
- Implementation of experimental studies of adsorption properties of carbon nanoparticles in relation to various inorganic, organic and chemical compounds.



- Development of a technology for polymer doping with carbon nanotubes with reference to the composition of ethoxyline coating and zeolites and a comparative analysis of the properties of doped and undoped materials.
- Study of generation conditions for functional bionanostructures with carbon nanotubes with reference to a hybrid of glucoamylase-UNT-8U22. The study of functional properties of bionanostructures with carbon nanotubes.

The main results of the project included:

- Overview and analysis of the modern scientific and technical, normative and methodological literature and analysis of patent research in the developed area.
- The programme of calculation of coordinates of carbon atoms in carbon nanotubes with different structures.
- Structured models of electronic energy spectrum of carbon nanoparticles of fluorinated carbon nanotubes with different structures. The size effects of fundamental parameters of carbon nanotubes.
- Structure models of  $C_{60}$ ,  $C_{70}$ ,  $C_{80}$ ,  $C_{90}$ ,  $C_{78}$ ,  $C_{96}$  fullerenes and carbon nanotubes of (4,4), (5,5), (6,6) chirality, of various length determined by means of MM3, AM1, PM3, LSDA/3-21G\*, B3LYP/6-31G computer modelling methods; regularities of carbon nanoparticles structure changes and carbon nanotube electric and thermodynamic properties upon dimensional change and calculation method dependence.
- Models of the electronic energy spectrums of  $C_{60}$ ,  $C_{70}$ ,  $C_{80}$ ,  $C_{90}$ ,  $C_{78}$ ,  $C_{96}$  fullerenes and carbon nanotubes of (5,5) and (0,9) chirality, of various lengths in an electric field, obtained by computer modelling; regularities of carbon nanoparticle electronic energy spectrum and fundamental parameters upon change of external electric field intensity and carbon nanoparticle sizes.
- Formulations for coating compositions with and without carbon nanotubes, production methods for coating compositions, and experimental samples of E-40 and E-41 resin ethoxyline coating compositions.
- Results of a study of the properties experimental samples of E-40 and E-41 resin ethoxyline coating compositions with and without carbon nanotubes.
- Computer modelling results for the adsorption properties of carbon nanoparticles in relation to atoms and ions maintaining the process of corrosion in saline media and physiologically active substances; adsorption energy of investigated substances by fullerenes and carbon nanotubes with various structures.
- Isotherms of alkali-metal chlorides and some amino acids of aqueous solutions adsorption by fullerenes and carbon nanotubes of different manufacturers.
- UNT SiO<sub>2</sub>-Si glucoamylase hybrid nanostructures generation method.
- Software module for visualisation of electron density functions, electronic potential, molecular orbitals and equipotential surfaces.
- Formulations and experimental samples of Setal resin-based coating compositions to be used for doping with carbon nanotubes.



- Results of properties studies of Setal resin-based coating compositions experimental samples without carbon nanotubes.

The staff of the following departments took part in the project:

- The Department of Analytical Chemistry of the Faculty of Chemistry.
- The Department of Semiconductor Physics and Microelectronics of the Faculty of Physics.
- The Department of Digital Technologies of the Faculty of Computer Sciences.

Staff breakdown:

Staff with a DSc degree – 2  
 Staff with a PhD degree – 0  
 Young researchers with a PhD degree aged under 35 – 2  
 Young researchers with no degree – 0  
 Engineering and technical assistants (ETA)  
 With a PhD degree – 1  
 ETA aged under 35 – 1  
 Postgraduate students – 4  
 Undergraduate students – 4  
 Total – 14  
 Including young researchers – 11

## ACTIVITY 1.2 “BIOSCIENCE”:

### THE PROJECT “DEVELOPING A TECHNIQUE FOR METASTATIC TUMOUR GROWTH POST-OPERATION MONITORING BY MEANS OF ACELLULAR FREELY CIRCULATING BLOOD DNA ANALYSIS”, INDUSTRIAL PARTNER – OOO COMPANY KHELIKON

**Head Researcher** – DSc in Biology, professor V. N. Popov.

**Duration of the project** – 17.06.2014–31.12.2015.

#### Applied research objectives:

- Development of methodological approaches to a patient-specific diagnostics of early stage primary tumour metastasis.
- Development of production technology for an individual medical test for the most affordable, economically acceptable and non-invasive monitoring of tumour metastasis development by means of patient acellular freely circulating blood DNA analysis.



The following results were obtained:

- Experimental samples from DNA-probes and the testing of obtained diagnostic sets was carried out in accordance with the developed sample testing programme and methods.
- It was established that DNA-probes and diagnostic sets meet the quality criteria for the pilot testing of the developed diagnostic instrument.
- Developed draft engineering documentation, including overview diagrams of different set components, specifications, and the model of interaction between different parties of the diagnostic procedure.
- During the pilot testing, the conditions for allele-specific PCR, that constitutes the key stage for detecting distant metastases by freely circulating blood DNA, were optimized. Developed instructions for use in kits with sequences of steps for different organisations.
- Project technical specifications for a patient-specific diagnostics of early stage primary tumour metastasis, a R&D project based on "A patient-specific diagnostics of early stage primary tumour metastasis", a report regarding set development feasibility with consideration of industrial partner resources. Developed suggestions and recommendations for a market-driven ARP results application.
- A technology based business plan for commercialization was developed that considered all the required resources, manpower, potential risks, and revenue.
- To promote the developed product, and to facilitate its introduction into clinical practices, information was provided to Voronezh ontological medical centres and molecular diagnostics laboratories; a scientific and practical conference was held, during which the project participants presented the preliminary results from the project.

The staff of the Department of Genetics, Cytology and Bioengineering of the Faculty of Biology and Soil Sciences took part in the project.

Staff breakdown:

Staff with a DSc degree – 1  
With a PhD degree – 2  
Young researchers with a PhD degree aged under 35 – 2  
Young researchers with no degree – 0  
Engineering and technical assistants (ETA) – 0  
ETA aged under 35 – 0  
Postgraduate students – 3  
Undergraduate students – 1  
Total – 9  
Including young researchers – 6



### ACTIVITY 1.3 “NANOSYSTEMS INDUSTRY”:

**THE PROJECT “DEVELOPING TECHNOLOGICAL SOLUTIONS FOR FORMATION OF NANOSTRUCTURED HYBRID MEMBRANES AND CREATING ON THEIR BASIS POTENTIOMETRIC MULTISENSOR SYSTEMS FOR WATER PROCESSING MEDIA REAGENTLESS EXPRESS MONITORING”, INDUSTRIAL PARTNER – OOO VORONEZHSELMASH.**

**Head Researcher** – DSc in Chemistry, professor O. V. Bobreshova.

**Duration of the project** – 05.06.2014–31.12.2016.

#### **Applied research objectives:**

- Development and optimization of approaches to hybrid membrane synthesis based on perfluorinated sulfocationite polymers with dopant nanoparticles with various sorption and metathetical properties.
- Development of potentiometric cross-type sensors based on hybrid membranes for quantitative determination of organic and inorganic ions in multicomponent aqueous media.
- Detection of correlation between composition, properties, and nanostructure of hybrid membranes and properties of potentiometric cross-type sensor based hybrid membranes.
- Development of multisensor systems for quantitative determination of key components of water processing media for different purposes.
- Creation of technological advancements for multisensor systems for the express monitoring of water processing media without the use of reagents.
- Development of laboratory and process procedures for the creation of hybrid membranes with tailor-made properties.
- Development of specifications for R&D, draft engineering and software documentation.

#### The main results of the project:

- Developed and optimized methods of hybrid membrane synthesis based on perfluorinated sulfocationite polymers with dopant nanoparticles with various sorption and metathetical properties.
- The hybrid membrane structure and properties were studied by means of transmission electron microscopy, X-ray powder diffraction, thermogravimetry, and impedance spectroscopy methods and using the developed methods for determining diffusion permeability and interdiffusion coefficients.
- Studied the potential-determining reactions in interphase boundaries of hybrid membranes with aqueous media with organic (amino acids, vitamins, medicinal substances, and mercaptans) and inorganic electrolytes.
- Developed hybrid membrane-based potentiometric cross-type sensors with Donnan potential used as an analytical signal.
- Developed laboratory and process procedures for the synthesis of hybrid membranes with tailor-made properties.



- Discovered the effect of dopant nature and size on hybrid membrane-transport parameters, stability, and potentiometric cross-type sensors sensitivity.
- Developed potentiometric cross-type sensors calibration procedures.
- Developed multisensor systems for the quantitative determination of key components (amino acids, vitamins, medicinal substances, mercaptans, and inorganic ions) of water processing media.
- Developed measurement procedures for multisensor system sensitivity, stability, reproducibility, and accuracy detecting/determination in aqueous media with organic and inorganic electrolytes.
- Papers describing R&D results were published in journals indexed in Scopus or Web of Science.
- Prepared an R&D based application for invention.
- The intermediary results of ARP were presented at national and international conferences, workshops, symposiums, and exhibitions.
- Composition of applied materials and researched media was studied and controlled.
- Performed marketing research looking at the commercial possibilities of the R&D results.
- Prepared draft engineering documentation for potentiometric cross-type sensors.

The staff of the following departments took part in the project:

- The Department of Analytical Chemistry of the Faculty of Chemistry of VSU.
- The Department of Electronics of the Faculty of Physics of VSU.
- The Laboratory of Functional Materials Ionics at Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences.

Staff breakdown:

Staff with a DSc degree – 4  
With a PhD degree – 0  
Young researchers with a PhD degree aged under 35 – 6  
Young researchers with no degree – 0  
Engineering and technical assistants (ETA) – 0  
ETA aged under 35 – 0  
Postgraduate students – 2  
Undergraduate students – 2  
Total – 14  
Including young researchers – 11



## **THE PROJECT “NEW TECHNOLOGY AND EQUIPMENT FOR SYNTHESIZING NANOSCALE MAGNESIAN POWDERS FROM RECYCLED WASTE OF ENRICHED AMORPHOUS MAGNESITE PRODUCTION”, INDUSTRIAL PARTNER – OOO FLUX AND MAGNESIAN MATERIALS PLANT**

**Head Researcher** – DSc in Chemistry, professor V.F. Selemenev.

**Duration of the project** – 22.09.2014–31.12.2016.

### **Applied research objectives:**

- Development and experimental implementation of a new technology for recycling waste materials resulting from the mining and processing of amorphous magnesite with production of market products in the form of nanoscale magnesian powders enabling a reduction in environmental damage in territories adjacent to mining and processing plants.
- Development of a scientific and technological foundation for the technology of synthesizing nanoscale magnesian powders for the chemical industry, medicine, and agriculture from the recycled waste of enriched amorphous magnesite production.

The results of the project included:

- An analytical overview of scientific and information resources (of scientific and technical, normative and methodological literature, papers in journals, monographs, etc.) was made. These resources describe the methods of synthesizing nanoscale magnesian powders and composite magnesia ceramics, as a result of which, the recycling of enriched amorphous magnesite wastes. These resources also describe the effects of the material recycling methods on the structure and properties of the obtained materials.
- Patent research into the recycling of enriched amorphous magnesite tailings and synthesizing nanoscale magnesian powders for various industries was carried out.
- The decision to research the development of a technology for synthesizing nanoscale magnesian powders from the wastes of recycled enriched amorphous magnesite production was justified.
- Revealed the influence patterns of grain composition and magnetic field intensity of enrichment wastes on the degree of separation of weak magnetic particles when magnetic separation method is used to recycle such wastes.
- Developed experimental programmes and methods for studying the experimental samples of magnesium concentrate, magnesium oxide, and magnesium nitrate powders, and high-purity composite magnesia ceramics.
- Developed a mathematical model for technical and economic performance forecasting and justifications of the best combination of engineering solutions for synthesizing nanoscale magnesian powders and nanoscale magnesian powder-based nanostructural composite ceramic materials from recycled enriched amorphous magnesite wastes.



- Developed laboratory and process procedures for synthesizing nanoscale magnesian powders and high purity composite magnesia ceramics with recycling of enriched amorphous magnesite wastes.
- Developed draft technical documentation for a test model for synthesizing nanoscale magnesian powders from recycled enriched amorphous magnesite wastes.
- Experimental samples of magnesium concentrate were synthesized as a result of enriched amorphous magnesite wastes recycling using the dry magnetic separation method. The best process parameters were determined.
- Studied experimental samples of magnesium concentrate that were synthesized as a result of enriched amorphous magnesite wastes recycling using the dry magnetic separation method.
- Technical-and-economic modelling of the developed technology was carried out. It was conducted in line with the developed plan of the enriched amorphous magnesite wastes utilization experiment.
- Processed the technical-and-economic modelling results for the developed enriched amorphous magnesite wastes utilization technology.
- Developed project technical specifications for magnesium concentrate.
- Technical requirements and suggestions were developed for magnesium concentrate production with the consideration of resources and production specifics of *OOO Flux and Magnesian Materials Plant*.
- Purchased the required processing, control, and measurement equipment.
- Materials were purchased and prepared mineral raw materials for enriched amorphous magnesite production.
- Performed research into the technical-and-economic indices of the existing technologies of enriched amorphous magnesite wastes recycling.
- Performed marketing research aimed at considering the commercial possibilities of the obtained R&D results.
- The researchers took part in events promoting and presenting the intermediary and final results of ARP.
- Developed draft engineering documentation for the production of an automated control system for a laboratory unit for synthesizing nanoscale magnesian powders from recycled enriched amorphous magnesite wastes.
- Procured an automated control system for a laboratory unit for synthesizing nanoscale magnesian powders from recycled enriched amorphous magnesite wastes. It is now in productive use.



The staff of the Department of Analytical Chemistry of the Faculty of Chemistry took part in the project.

Staff breakdown:

- Staff with a DSc degree – 2
- With a PhD degree – 6
- Young researchers with a PhD degree aged under 35 – 2
- Young researchers with no degree – 3
- Engineering and technical assistants (ETA) – 2
- ETA aged under 35 – 3
- Postgraduate students – 2
- Undergraduate students – 0
- Total – 20
- Including young researchers – 10

**THE PROJECT “DEVELOPMENT OF ENERGY-SAVING TECHNOLOGIES USED IN THE PROCESS OF PRODUCTION OF EMULSIFIERS AND EMULSIFYING SYSTEMS FOR FOOD AND NON-FOOD INDUSTRY BASED ON RAW MATERIALS AND THEIR DERIVATIVE PRODUCTS”, INDUSTRIAL PARTNER – OAO EFIRNOYE (OAO EFKO).**

**Head researcher** – DSc in Chemistry, professor Kh.S. Shikhaliev.

**Duration of the project:** 27.10.2015–31.12.2017.

**Applied research objectives:** Creation of new high-performance energy-saving technologies used in the process of production of emulsifiers using renewable natural resources, including biocatalysts unprecedented in Russia and providing import substitution solutions in the industry, including:

- Development of scientific and technological foundation for the technology of synthesizing emulsifiers and emulsifying systems based on raw materials (oils and their waste products) for food and non-food (cosmetic) products.
- Development of new methods of synthesizing emulsifiers and emulsifying systems based on raw materials, including the ones using biocatalytic technologies.
- Development of primary technological solutions for synthesizing high-performance emulsifiers and emulsifying systems based on raw materials.
- Development of technological requirements for synthesizing emulsifiers and emulsifying systems based on raw materials.
- Development of laboratory and process procedures for synthesizing high-performance emulsifiers and emulsifying systems based on oils and their waste products.



The results of the project included:

- Performed an analytical overview of modern scientific and technical, normative, and methodological literature on production technologies for natural emulsifiers and emulsifying systems, including fatty acid esters and various polyol esters.
- In accordance with the requirements of GOST 15.011-96 performed patent research into the methods of synthesizing natural emulsifiers, including methods of synthesizing lecithins, phosphatides, glycerol, sorbitan, polyglycerol, oxygen acid esters, etc.
- The choice of the research fields was made, including:
  - A method was developed for synthesizing emulsifiers based on oils and their waste products involving: reactions of fatty acids and various polyols esterification, methyl ether and oil fatty acid triglycerides interetherification; oil fatty acid derivatives functionalisation; and oil fatty acid heterocyclization reactions. Methods were developed for synthesizing emulsifiers based on oils and their waste products involving various polyols acylation by fatty acids and their derivatives.
  - Comparative assessment of the effectiveness of various classes of emulsifiers based on oils and their waste products in the food and non-food industries.
  - The choice of the most advanced classes of emulsifiers based on oils and their waste products, including compounds with heterocyclic units was justified;
- Laboratory methods were developed for synthesizing emulsifiers based on individual fatty acids and fatty acid model mixtures, including monoglycerides, polyglycerol esters of different esterification degree, fatty acid alkanolamid sulfocationites and succinates, 2-alkyl-4-(2-hydroxyethyl)-imidazolines and their modification products, 5-alkyl-3-amino-1,2,4-triazoles and their modification products, 2-R-4-alkyl-5-amino-1,3,5-triazines.

The staff of the following departments took part in the project: the Department of Organic Chemistry of the Faculty of Chemistry.

Staff breakdown:

Staff with a DSc degree – 2  
With a PhD degree – 5  
Young researchers with a PhD degree aged under 35 – 1  
Young researchers with no degree – 1  
Engineering and technical assistants (ETA) – 1  
ETA aged under 35 – 1  
Postgraduate students – 2  
Undergraduate students – 0  
Total – 13  
Including young researchers – 5



### ACTIVITY 3.1.2 “SUPPORT AND DEVELOPMENT OF CENTRES FOR COLLECTIVE USE OF SCIENTIFIC EQUIPMENT”:

#### THE PROJECT “STUDYING MOLECULAR MECHANISMS OF HUMAN’S IMMUNOCYTE DESTRUCTION UNDER UV RADIATION AND REACTIVE OXYGEN INTERMEDIATES”.

**Head Researcher** – DSc in Biology, professor V.G. Artyukhov.

**Duration of the project** – 18.08.2014–31.12.2015.

#### **Project objectives:**

- Implementation of the programme “Development of the Centre for Collective Use of Scientific Equipment of Voronezh State University (hereinafter CCU) for 2014-2015”, aimed at enhancing the Centre’s performance in advanced interdisciplinary R&D projects in priority development areas in science, technology and engineering in the Russian Federation, in solving significant scientific issues, including issues of cooperation with world leading research centres.
- Increase the complexity and range of provided sci-tech services, as well as development of CCU normative and methodological, metrological and informative components.
- In-depth study of molecular mechanisms of human immunocyte (lymphocyte, neutrophyte) destruction under UV radiation and reactive oxygen intermediates.
- Analysis and generalisation of the regulation mechanisms of human lymphocyte apoptosis under physicochemical factor exposure (ultraviolet light, reactive oxygen intermediates, carbonous oxide, and nitrogen).
- Studying the mechanisms of neutrophil extracellular trap formation under ultraviolet light, reactive oxygen intermediate, and immunomodulator exposure.

The results of the project included:

- Execution of The Development Programme for the Centre for Collective Use of Scientific Equipment of Voronezh State University for 2014–2015, including the following:
  - CCU was fitted with extra modern and expensive scientific and metrological equipment valued at over 1 million roubles that makes up 80% of the project value.
  - Provided access to CCU equipment for internal and external research teams.
  - Carried out CCU normative and methodological, metrological and informative system development events.
  - Held CCU human resource development events.
  - Developed (mastered) new measurement techniques.



- Achieved the following key performance indices (see Table 6.6):

Table 6.6

### KEY PERFORMANCE INDICES

Indicator	Year	2014	2015
1. Percent of laboratory and analytical equipment under 5 years old against total value of CCU laboratory and analytical equipment		70%	75%
2. Number of organisations using CCU scientific equipment		23	30
3. Percent of researchers aged under 39 against total number of researchers using CCU equipment for their projects		36%	40%
4. Total extra-budgetary funding (of the total funding), above 10%		3.8 million roubles	3.8 million roubles
Indicator	Year	2014	2015
1. Number of foreign organisations using CCU equipment (joint project partners)		0	0
2. Number of publications in journals indexed in Web of Science or Scopus with reference to Using CCU equipment during the project		1	3
3. Total CCU revenue from services provided to user organisations		40 million roubles	50 million roubles
4. Number of developed (mastered) new measurement techniques		3	4

- Carried out an in-depth study of molecular mechanisms of human immunocyte (lymphocyte, neutrophyte) destruction under UV radiation and reactive oxygen intermediates:
  - Studied the impact of a system of markers of human lymphocyte apoptosis under ultraviolet light, reactive oxygen intermediates, carbonous oxide, and nitrogen.
  - Developed and specified studies of mitochondrial apoptosis initiation and contribution of mitochondria to the process of lymphocyte cellular death under physicochemical factor exposure.
  - Detected a correlation between different apoptosis pathways (receptor-mediated, mitochondrial, p53-dependent) with changes in the telomerase functional activity and the chromosome telomere length in the immunocyte cellular death process dynamics.
  - Studied the prooxidant/oxidant status of lymphocytes under apoptosis induced with ultraviolet light and reactive oxygen intermediates.
  - Determined the role of extra- and intracellular calcium ions in the process of lymphocyte cellular death under ultraviolet light and reactive oxygen intermediates exposure.
  - Created computer and mathematical models of different human's lymphocyte apoptosis pathways under ultraviolet light and reactive oxygen intermediates exposure.



- Studied the neutrophil extracellular trap formation processes under various physicochemical agent exposure. There is a plan to study the ultraviolet light and reactive oxygen intermediate impact on the process of DNA release from neutrophil nuclei under neutrophil extracellular trap generation.

The staff of the Department of Biophysics and Biotechnology of the Faculty of Biology and Soil Sciences took part in the project.

Staff breakdown:

Staff with a DSc degree – 3  
 With a PhD degree – 0  
 Young researchers with a PhD degree aged under 35 – 2  
 Young researchers with no degree – 0  
 Engineering and technical assistants (ETA) – 0  
 ETA aged under 35 – 4  
 Postgraduate students – 0  
 Undergraduate students – 0  
 Total – 9  
 Including young researchers – 6

In 2015, the following project was implemented in the framework of the federal target programme of the Ministry of Education and Science “Development of the Pharmaceutical and the Medical Industries of the Russian Federation for the Period up to the Year 2020 and beyond” (activity 5.22):

**THE PROJECT “DEVELOPMENT OF AN EDUCATIONAL MODULE SET FOR MASTER’S PROGRAMMES IN BIOLOGY – THE PROFILE “SCREENING NON-CLINICAL STUDY OF MEDICINAL PRODUCTS”.**

**Head Researcher** – DSc in Biology, professor T.N. Popova.

**Duration of the project:** 02.10.2015–05.12.2016.

**Project objectives:**

Modernisation of the content of higher education in the area of the training pharmaceutical industry specialists, targeting the problem of a lack of specialists in non-clinical screening studies of medicinal products.



The main results of the project:

- Analysed international requirements for screening non-clinical study of medicinal products in accordance with good practice and corresponding laboratory competency requirements.
- Collected and analysed data regarding employer's requirements for higher institution graduates in the area of screening non-clinical studies of medicinal products.
- Developed a list of professional activity tasks for higher institution graduates in the area of screening non-clinical studies of medicinal products.
- Prepared an analysis report for the subject area and professional activity tasks in the area of screening non-clinical studies of medicinal products.

The staff of the Department of Medical Biochemistry and Microbiology of the Faculty of Biology and Soil Sciences took part in the project.

Staff breakdown:

Staff with a DSc degree – 2  
With a PhD degree – 2  
Young researchers with a PhD degree aged under 35 – 2  
Young researchers with no degree – 2  
Engineering and technical assistants (ETA) – 0  
ETA aged under 35 – 0  
Postgraduate students – 2  
Undergraduate students – 0  
Total – 10  
Including young researchers – 6

This educational project is innovative and the testing of the new educational technologies in the process of the corresponding specialists training as well as future market demand will reflect the project KPIs.



The following project was implemented in the framework of **the department target programme of the Ministry of Education and Science “Advanced Training for Engineers for 2015–2016”**:

**“DEVELOPMENT OF CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMMES AND INTERNSHIPS FOR ENGINEERING STAFF “ELECTRONIC COMPONENTS BASE PRODUCTION TECHNOLOGICAL PROCESSES AUTOMATION”. THE PROJECT WAS IMPLEMENTED IN COOPERATION WITH AO VORONEZH SEMICONDUCTOR PLANT – SBORKA (AO VZPP-S).**

**Head Researcher** – DSc in Physics and Mathematics, professor A. M. Bobreshov.

**Duration of the project:** 29.09.2015–31.12.2015.

**Project objectives:**

- To train AO VZPP-S personnel.
- To organise corresponding internships in Russia and abroad.

The following results were obtained in 2015:

- 15 people were trained.
- An internship programme for three people was organised in Russia.
- An internship programme for three people was organised in Germany.

The staff of the Department of Electronics of the Faculty of Physics took part in the project.

Staff breakdown:

Staff with a DSc degree – 2  
 With a PhD degree – 2  
 Young researchers with a PhD degree aged under 35 – 3  
 Total – 7  
 Including young researchers – 3

The following project was implemented in the framework of the open contest of **the Fund for Infrastructure and Educational Programmes (ROSNANO)**:

**“WORKING OUT A CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME OF FURTHER EDUCATION IN THE FIELD OF MODERN METHODS OF ANALYSIS OF SURFACE CHARACTERISTICS IN NANOSTRUCTURED COATINGS MANUFACTURING”. THE PROJECT WAS IMPLEMENTED IN COOPERATION WITH OAO TURBONASOS**

**Head Researcher** – DSc in Physics and Mathematics, professor V.A. Kostin.

**Duration of the project:** 13.10.2015–01.11.2016.

**Project objectives:**

Development and testing of a continuing professional development programme of further education in the field of modern methods of analysis of surface characteristics in the manufacture of nanostructured coatings.

The following results were obtained at the first stage of the project in 2015:

- Academic programmes included into the academic programmes and educational institutions e-register (URL:<http://www.startbase.ru/edu/>) (e-register) were analysed with a view towards their application in the developed programme.



- The jobs for specialists described in the specifications were analysed and their relevance to existing technologies were specified. A corresponding list of respective processes and operations was developed.
  - List of professional competencies required to do the jobs was developed and approval was obtained from the employers.
  - The academic programme results were formed based on the approved list of professional competencies and specialist qualification shortfall.
- The academic programme was developed as an educational technology (content, methods, and courses) of competencies that require mastering by specialists.
  - Distance learning modules were developed. The duration of distance learning modules is at least 60 hours.

The plans for 2016 include the training of 25 specialist of OAO *Turbonasos* and a trial run of the academic programme.

The staff of the Department of Mathematical Modelling of the Faculty of Mathematics took part in the project.

Staff breakdown:

- Staff with a DSc degree – 8
- With a PhD degree – 2
- Young researchers with a PhD degree aged under 35 – 10
- Young researchers with no degree – 4
- Engineering and technical assistants (ETA) – 0
- ETA aged under 35 – 0
- Postgraduate students – 4
- Undergraduate students – 4
- Total – 32
- Including young researchers – 22

In 2015, total innovation project funding in the framework of the Order of the Russian Government No 218, the federal target programmes of the Ministry of Education and Science of the Russian Federation, and professional development programmes for engineering staff, etc. amounted to 149.9 million roubles, which is 41% of total annual VSU research.

In 2015, the following university divisions took part in innovation projects:

- The Department of Electronics, Solid-State Physics and Nanostructures.
- The Department of Semiconductor Physics and Microelectronics.
- The Department of Nuclear Physics.
- The Department of Analytical Chemistry.
- The Department of Organic Chemistry.
- The Department of Materials Science and the Industry of Nanosystems.
- The Department of Mathematical Modelling.

- The Department of Genetics, Cytology and Bioengineering, Biophysics and Biotechnology.
- The Department of Medical Biochemistry and Microbiology.
- The Department of Digital Technologies
- VSU Centre for Collective Use of Scientific Equipment.

See paid participation of VSU employees in projects in Table 6.7.

Table 6.7

### PAID PARTICIPATION OF UNIVERSITY EMPLOYEES IN PROJECTS

Staff category	Year	2013	2014	2015
Academic staff and researchers		35	77	111
Engineering and technical assistants, including educational support personnel		14	56	35
Postgraduate students		8	15	26
Full-time undergraduate students		22	27	17
<b>Total</b>		<b>79</b>	<b>175</b>	<b>189</b>

In 2015, out of 189 project participants 108 (57%) were under 35 years old (in 2014, 90 (51%) participants out of 175 were under 35 years old).

Compensation for executives under the age of 35 years old (undergraduate and postgraduate students, researchers, engineers, and lecturers) amounted to 44.5% of the total project compensation fund (in 2014 – 27.3%). These figures show that a reserve of personnel is being formed in VSU and postgraduate and undergraduate students are being involved in research.

Significant results of projects include boosted cooperation with enterprises and:

- Establishment of the Department of Natural Compounds Chemistry that trained 6 master's degree students in the 2014/2015 academic year and 5 master's students in the 2015/2016 academic year.
- Organisation of monthly meetings of Scientific and Technical Councils with participation of industrial enterprise representatives.
- Implementation of joint initiative research based on requests from industrial partners.
- Preparation of graduate qualification works (master's dissertations, bachelors' and diploma degree students' graduate qualification works) in relation to the integrated projects.
- Organisation of innovation project contests for VSU students and young researchers.
- Employment of VSU graduates by enterprises and industrial research centres.
- Joint participation of VSU and enterprises in exhibitions and scientific events.



## 6.7. VSU INNOVATION BUSINESS INCUBATOR

VSU's innovation business incubator is not only a university facility but also a unique platform that joins VSU's SIB administration, representatives of research and expert communities of other universities, as well as specialized departments of Voronezh and the Voronezh region administration.

In 2015, the following areas were developed:

1. Promotion of key R&D projects by VSU researchers and small innovation businesses at exhibitions and presentation platforms: CeBIT 2015 (Hannover, Germany), Archimedes-2015 (Moscow), Open Innovation-2015 (Moscow), and VUZPROMEKSP0-2015 (Moscow). Recent university high technology achievements were presented at VSU to delegations from Cuba, Japan, Ireland, representatives of PAO *Gazprom*, PAO *Lukoil*, OOO *FPK Kosmos-Neff-Gaz*, Skoltech, etc. Over 35 key R&D projects by VSU researchers and SIBs were presented at 10 exhibitions and presentation events. Each project involved the preparation of exhibit materials, computer presentations, development of the project design, and the preparation of stands and banners.
2. Participation of employees in the following workshops:
  - "New Business Models for Business Incubators: Expanding Services and Revenue Streams", "Using Lean Start-up Methods to Help More Clients and Grow Better Companies", "How Companies Scale: Management, Market Intelligence and Funding for High Growth Companies", and "High Impact Space: Digital Studios, CoWorking, and Other Ways to Attract Customers" at the 5th International Forum on Business Incubation.
  - Events dedicated to the clarification of the provisions of the open contest between organisations for receiving grants for hi-tech integrated projects in cooperation with Russian institutions of higher education (the Order of the Russian Government No 218).
3. Full-scale support of the VSU Innovation Projects Contest 2014-2015 (hereinafter Contest). The Contest was held at the innovation business-incubator by the Rector's directive of 19th September 2014, No 590. Applications for the Contest were submitted between 29 September and 25 December 2014, 49 applications by VSU students and young researchers were submitted for the Contest. The 15 best projects were presented in the Final in May 2015. Nine of the projects received prizes.



The winners of the Contest include:

1st prize – A. Yeliseyeva, student of the Faculty of Chemistry, for the project “Creative Science Courses”.

2nd prize – D. Shevtsov, postgraduate student of the Department of General Geology and Geodynamics of the Faculty of Geology, for the project “Development of Pavlovsk Mining and Concentration Complex Screening Processing Technology Aimed at Enhancing the Market Demand for them and Decreasing the Environmental Impact”.

3rd prize – M. Kholyavka, researcher of the Department of Biophysics and Biotechnology of the Faculty of Biology and Soil Sciences, for the project “Development of an Innovative Technology for the Generation of Wound Healing Multi-Enzymatic Medication, ZAZHIVIN”.

Three projects received special awards:

“Eye-Tracking Based Operating Systems for External Devices” – A. Alexeyev, student of the Faculty of Computer Sciences.

“Founding the Theatre of Equals” – V. Malamura, student of the Faculty of History.

“Development of a Pharmaceutical Product for the Stimulation of Tissue Regeneration” – P. Fedosov, postgraduate student of the Faculty of the Pharmaceutics.

Three finalists won the nomination “Innovations in the Field of Oleochemistry and Seed Fat Processing Technologies”, established by OAO *EFKO*:

1st prize – A. Peregudova, postgraduate student of the Department of Organic Chemistry of the Faculty of Chemistry, for the project “Preparation of Ozonated Oil Derivatives with High Rates of Residual Desaturated Fatty Acids with High Biological and Antioxidant Activities”.

2nd prize – A. Kruzhillin, master’s student of the Faculty of Chemistry, for the project “Preparation of Polyols Based on Oils with High Rates of Residual Desaturated Fatty Acids with High Biological and Antioxidant Activities”.

3rd prize – A. Grineva, master’s student of the Faculty of Chemistry, project “Processing Sunflower Stems into Bioethanol”.

VSU continues work with contest finalists to prepare intellectual property applications, create SIBs, and conclude license agreements with companies interested in commercialising the results of intellectual activities.



4. Provided consultative and administrative support of innovation projects by VSU student and staff submitted for the contest held between Voronezh universities "Innovation Cup – 2014" and VSU's innovation project contest "Start-up Factory" (2015–2016).

In 2015, VSU played an active part in the annual innovation project contest held between Voronezh universities "Innovation Cup" – VSU's young researchers submitted 39 innovation projects for this contest (in 2014 – 22 projects). During the process of project preparation the following training workshops were organised for the project researchers: "Project Management: Project Commercialisation and Business Plan" and "Success Story. Mentoring and Business Development". Each project also received individual consultative support.

In 2015, the jury had to assess 259 projects submitted by the researchers of nine universities from the Voronezh region. Four of the five finalists were VSU researchers.

First place went to A. Maximov, lecturer at the Department of Digital Technologies of the Faculty of Computer Sciences, for his project "Full-Scale Production of the Rehabilitation System Breath&Play for Children Enduring Pulmonary Pathology".

Joint third place was given to A. Zenischeva, senior research assistant at the Department of General and Inorganic Chemistry of the Faculty of Chemistry ("Full-time Hi-Tech Production of Innovative Water-Retaining Supersorbent Solid Water"), and I. Korovchenko, associate professor at the Department of Electronics of the Faculty of Physics ("Creating an Enterprise for Implementing Various Methods of Enhancing the Resistance of Electronic Component Base to Modern and Future Types of Noise").

The innovation project by a lecturer from the Department of Experimental Physics of the Faculty of Physics, G. Grigoryan "Producing Magnetic Nanostructured Transition Metals Silicides with an Optical Magnetic Reversal Effect for the New Generation Memory Units" received a support grant.

Voronezh State University was announced to be the best innovative university of the Voronezh region in 2015. The university was awarded with a trophy and a certificate worth 750 thousand roubles.

The "VSU Start-up Factory" contest results will be announced in the second quarter of 2016.

5. Development of the integrated system of cooperation between small-business state-support agencies, small innovation businesses, and VSU's staff and students.



To enhance the entrepreneurial activities of VSU's staff and student, over 10 projects and events were implemented in collaboration with other organisations (OKU Innovations and Development Agency, GBU Cluster Development Centre, VPRSP OPORA, GS Leader, etc.):

- Workshops and "round tables" at the 8th Voronezh Industrial Forum.
- Monthly meetings of the expert committee with the forum "Youth Business in Russia".
- "Round tables" and workshops with the Maslovsky Investors Club.
- "Round tables" and presentation sessions with the Russian and Chinese Forum (Moscow).
- "Round tables" and workshops with 2nd Voronezh Business Community Forum.
- Workshops with the National Youth Entrepreneurship Forum (Rostov-on-Don).
- Workshops in the framework of the conference of the federal state-funded institution Federal Institute of Industrial Property (Moscow).
- Workshops, trainings, and master classes of the National Youth Entrepreneurship Forum (Moscow).

6. To boost entrepreneurial activity of university staff, VSU's Business Incubator is working on a model for the discovery, development, and promotion of innovative ideas. VSU's Youth Entrepreneurship Development Programme for 2016 was developed. Established bilateral cooperation with the following organisations to provide support for the development of Voronezh region's small businesses and innovation:

- State Foundation for Assistance to the Voronezh Region Small Innovative Enterprises
- OKU Innovations and Development Agency
- GBU Voronezh Region Cluster Development Centre
- The Economic Department, the Entrepreneurship and Trade Development Department, and the Department of Industry of Voronezh Region
- VPRSP OPORA
- GS Leader
- The Innovation Business Incubator includes the Centre for Youth Initiatives.

### **INNOVATION BUSINESS INCUBATOR'S CENTRE FOR YOUTH INITIATIVES**

The Centre for Youth Initiatives (hereinafter CYI) is an innovation platform for students' self-fulfilment and development of project management skills.

In 2015, the key goals of the CYI were to engage students in innovative activities and to enhance their entrepreneurial activities. The key performance indicators for these tasks were:

- 1) Number of project teams.
- 2) Number of projects.
- 3) Number of project ideas.

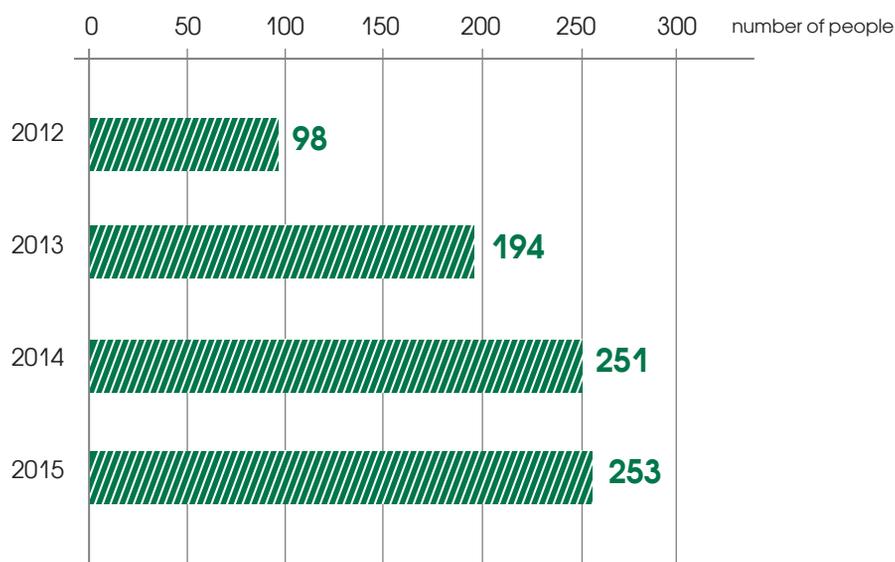
These indicators reflect the qualitative component of the number of students involved in VSU innovation activities.



In 2015, over 250 VSU students were involved in youth innovation projects (both social and sci-tech). The focus was on the qualitative component of the projects and enhancement of project implementations and project management skills. See student innovation activities, i.e. the dynamics of innovation project participation of VSU students for 2012–2015 in Figure 6.3.

Figure 6.3

### DYNAMICS OF INNOVATION PROJECT PARTICIPATION OF VSU STUDENTS'



In 2015, CYU held the following events:

- In the framework of the innovation ideas contest “Rules of Development” and in cooperation with the OKU Innovations and Development Agency, CIY established a student recruitment platform.
- In the framework of the Global Entrepreneurship Week and jointly with the Youth Entrepreneurship Development Programme “Youth Business in Russia”, Voronezh State University organised the educational platform “Success Stories. Mentoring and Business Development” with the participation of young businessmen.

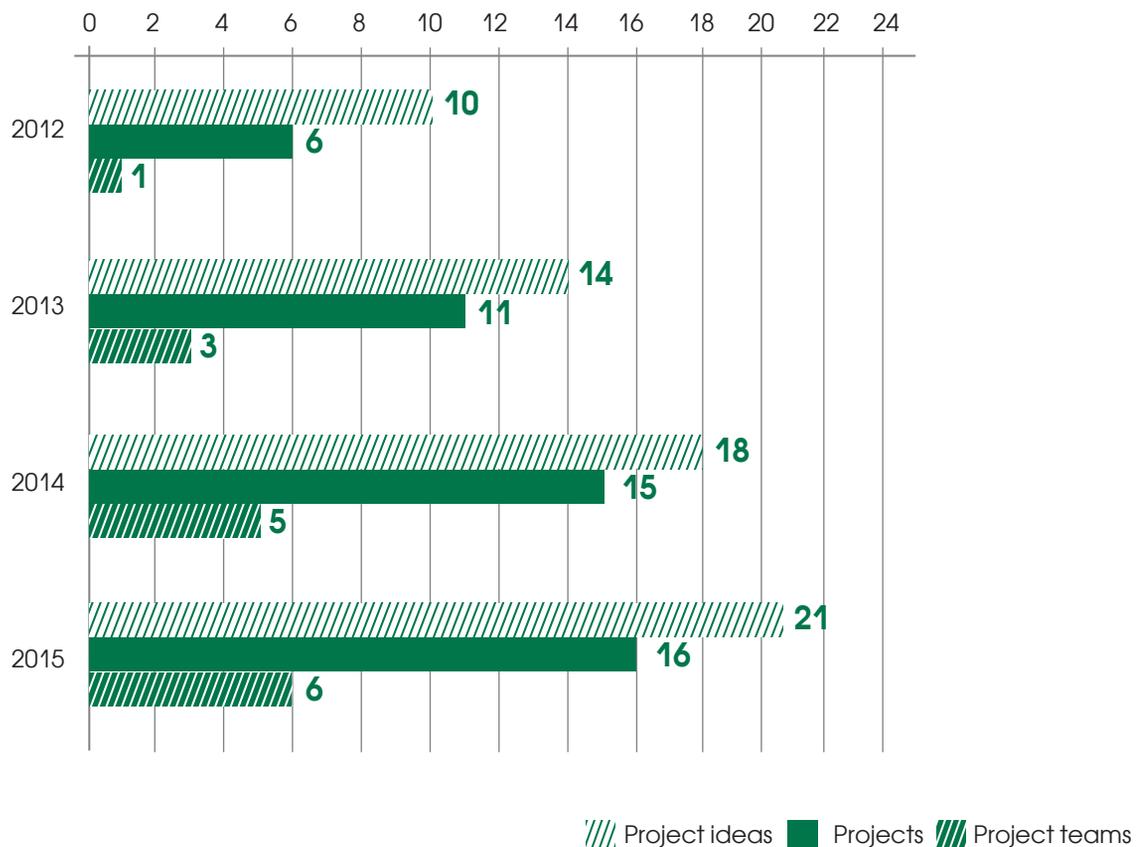


- The workshop “Start-up from Scratch” at the regional educational forum “Molgorod-2015” was organised for VSU students.
- VSU students took part in the Territoriya smyslov na Klyazme (Territory of the Meanings on the Klyazma) National Educational Forum.
- A publicity campaign was carried out aimed at popularising CYU-based innovation activity in social networks.

The level of innovation activity was also determined by the number of project teams, projects, and project ideas from students involved in youth innovation and social projects. See student innovation activity for 2012–2015 in Figure 6.4.

Figure 6.4

### STUDENT INNOVATION ACTIVITY DYNAMICS FOR 2012–2015





## 6.8. VSU PARTICIPATION IN THE PROGRAMME “PARTICIPANT OF THE YOUTH SCIENTIFIC AND INNOVATION CONTEST”

Since 2009, the year of its foundation, 52 VSU students has become winners of the programme “Participant of the Youth Scientific and Innovation Contest” “U.M.N.I.K.”.

In 2015, VSU submitted 31 applications for the programme and received seven grants. The following students are among the winners: A. Alexeyev and K. Fisenko from the Faculty of Computer Sciences; A. Zhabin from the Faculty of Physics; Yu. Dobrina from the Faculty of Pharmaceutics; T. Ilyinova from the Faculty of Chemistry; A. Kokina from the Faculty of Biology and Soil Sciences.

Seven projects have been implemented since 2014. Among the winners of 2014 were the following students: T. Titova and A. Kharina from the Faculty of Chemistry; K. Titov and I. Chursin from the Faculty of Computer Sciences; A. Gureyev from the Faculty of Biology and Soil Sciences, N. Lysenko from the Faculty of Physics, M. Veretennikova from the Faculty of Pharmaceutics.

Total projects financing in 2015 amounted to 2.8 million roubles. See data describing VSU’s participation in the “U.M.N.I.K.” programme in Table 6.8.

Table 6.8

### VSU’S PARTICIPATION IN THE “U.M.N.I.K.” PROGRAMME

Indices	Year	2012	2013	2014	2015
Applications submitted to the "U.M.N.I.K." programme		20	17	21	31
Winners of the "U.M.N.I.K." programme		11	4	7	7



## 6.9. VSU'S SCIENCE PARK

The main aim of VSU's Science Park is to support innovative ventures by means of laying the foundation for creating, developing, supporting, and preparing for independent activity small innovative businesses. In addition, to master the scientific knowledge, inventions, expertise, and knowledge-intensive innovative technologies of the Science Park participants on a commercial scale.

VSU's Science Park is fitted with unique vacuum technological equipment as well as equipment for mechanical processing and 3D prototyping.

Lecturers and researchers of the Department of Materials Science and the Industry of Nanosystems of the Faculty of Chemistry of VSU use the Science Park equipment for research.

The introductory training of 1st year students of the Department of Materials Science and the Industry of Nanosystems of the Faculty of Chemistry of VSU. Practical classes for Physical Basis of Vacuum Technology and Materials Formation Methods.

In 2015, 23 students and 18 master's students participated in the programme.

The Science Park equipment was used for research in the following areas: "Synthesis, Structure, and Properties of Composites of Membrane Elements for the Ultra-purification of Hydrogen" and "Preparation of Thin-Film Hardening Coating Based on Refractory Metal Carbides".

In 2015, a laboratory for the Faculty of Biology and Soil Sciences fitted with X-ray cancer detection equipment was founded on the premises of VSU's Science Park.

In 2015, a VSU Science Park division, the Students' Development Laboratory (SDL), recruited eight students to take part in experimental power supply R&D.

In 2015, under a cooperation and collaboration agreement between VSU and OOO AEDON concluded in 2015, a 225 thousand rouble R&D and design and experimental project was carried out at the Students' Development Laboratory. The project was based on "Development of Four diagrams for High-Performance Power factor adjusters Using Home-Produced Components: KKM150, KKM300, KKM600, and KKM1500 for 150 Wt, 300 Wt, 600 Wt, and 1500 Wt 110-220V AC Power Supplies".



## 6.10. GRADUATES EMPLOYMENT ASSISTANCE ACTIVITIES

In 2015, the following services of the Centre for Career Development of the VSU Department of Innovation and Business (CCD, Centre) were most demanded:

- Employment assistance for VSU graduates (consulting, participation in negotiations with employers).
- Preparing and proofreading the CVs of VSU graduates and students.
- Sending newsletters with information about vacancies and services.
- Custom vacancy searches.

Regular consulting activities regarding self-presentation (preparing a CV, writing a cover letter, interview guidelines), professional orientation, and providing information about the labour market, included the following:

- Telephone interviews with graduates regarding their employment and occupation aimed at extending the graduate database (2,060 people).
- Organising polls among senior students (employment plans, contact details, demand for employment assistance, etc.) (2,018 graduates).
- Private consulting provided to students and graduates (108 people).
- Trainings for students and graduates under the Successful Employment Techniques programme, youth social adaptation workshops (758 people).



## INTERNET RESOURCES USED BY CCD

The Centre used the VSU official website and social networks to support its activities. In 2015, CCD's presence on social networks increased considerably – the number of followers of its official VKontakte page Centre for Career Development increased by 250 people and reached 700 people ([https://vk.com/centr\\_kariery\\_vsu](https://vk.com/centr_kariery_vsu)). The CCD group collaborates actively with official VKontakte faculty groups. These pages include information about various events organised by CCD and provide professional orientation and employment assistance – Career Days, excursions to enterprises, business games, and list available vacancies.

The Centre for Career Development has "Employment" web portal (<http://job.vsu.ru>), that advertises vacancies in Voronezh and the Voronezh region and provides graduates and students with valuable information, e.g. how to have a successful interview, how to write a CV, etc. The resource is beneficial to both students and employers looking for specialists and eager to collaborate with VSU. The Centre's official website is currently under construction. It is expected to include a calendar of events contributing to students and graduates' successful employment and professional orientation, and a special section where students can publish their CVs for potential employers.

About 30% of the employed graduates from 2014/2015 used the services of the Molodezhny (Youth) employment centre and CCD advertisement boards and web portal to find a job for which they had been trained.

## ORGANISATION OF GRADUATES' EMPLOYMENT ASSISTANCE EVENTS

In the 2014/2015 academic year, Recruitment Fairs, Career Days, and Perspektiva youth forums were organised – all in all, 45 various events which attract a lot of interest of both employers and job seekers, i.e. VSU students and graduates.

Analysis of such ranking parameter as "Employer contributions" shows that the companies that are most actively involved in cooperation with the University and in training for specialists are IT companies (*DataArt, DSR Corporation, and Atos IT Solutions and Services*). They contribute to training for specialists by offering educational services at their training centres, by giving public lectures, organising, contests, and conferences.



See contribution by employers to VSU's educational process in Table 6.9.

Table 6.9

## CONTRIBUTION BY EMPLOYERS

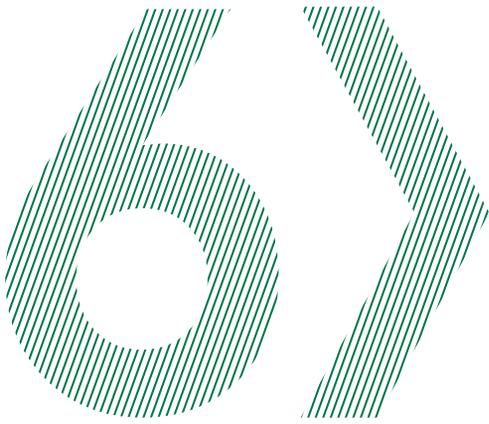
Partner company/ employer's representative	Event
OAO <i>Severstal</i> OOO <i>ASAPIO CIS</i>	SAP A1LOG systems logistic procedures two week course
OOO <i>PROK</i> OOO <i>ELKOM</i> KTC <i>Electronics</i>	Master class "Entrepreneurship and its history. Tips for a successful business start"
Regional Advertising Director of ZAO <i>Argumenty i Fakty</i> (Moscow), chairman of ANO <i>Marketing Studies and Communication Centre</i> , Government and Public Relations Advisor N. Terestchenko, Director of "AIF Chernozemie" and "AIF. TV Gid" A. Golovin	Public lecture "Information Business Discrepancies"
International company <i>DataArt</i>	Technical conference "JavaDay Voronezh 2014"
<i>HeadHunter</i>	Practical IT career forum "Let's Work" Communication skills development interactive event
Public IT company <i>Yandex</i> Project "Yandex lectures"	Lectures on the topics "2014 Economics Nobel prize: Jean Tirole's Results" and "Discreet Response Equilibrium: Searching an Adequate Model of Behaviour"
International company <i>DataArt</i> (supported by <i>Google</i> , <i>Yandex</i> , and <i>Surfstudio</i> )	Technical conference for mobile- and web- developers GDG devfest Voronezh 2014
Public company <i>National Instruments</i>	Master class "Software Defined Radio Prototyping"
<i>1C-Rarus</i> (Moscow), OOO <i>DIART</i> , official partner of <i>1C</i> company in Voronezh	Regional round of 29th International contest of accounting and analytic problems programming using the platform "1C: Enterprise 8"
OOO <i>SAP CIS</i>	Lecture "Career in IT"
IT company <i>Card Access Engineering</i> (USA)	Public lecture "Internet of Things and its Meaning for me"
Public company <i>LG Electronics</i>	Lecture "Corporate Volunteer Blood Donation as a Brand Building Component"
The Boston Consulting Group and PAO <i>Sberbank</i>	Presentation of the leadership programme "Teaching in Russia"
GBU Voronezh Region Cluster Development Centre, OKU <i>Innovations and Development Agency</i>	OAO <i>RVK</i> 's specialised academic programme "RSPK – LOGA Group & Seed Forum International" (RSPK)
PAO <i>Bank VTB24</i>	<i>VTB24</i> 's Bank school courses – further education programme
Training centre <i>DSR Corporation &amp; OTSL Inc.</i> (Japan)	Embedded-systems Software Technologies Training Centre courses
A. Granovskaya, journalist, screen writer, blogger, PR director of the festival "Lifestyle"	Master class
I. Chervakova, Head of the Press and Information Office of Voronezh Regional Duma	Master class

Employing companies held information and professional orientation events at VSU's platforms. See the event results in Table 6.10.

Table 6.10

### EMPLOYERS' EVENTS ON VSU PREMISES

Company	Event
OAO EFKO OOO Atos IT Solutions & Services Rusfinance Bank OAO Vypel-Kommunikatsyi Concern Sozvezdie RA Vezdekhod	Recruitment Fair Perspektiva forum
PAO Novolipetsk Steel	Company presentation. Mapping out possibilities for cooperation
T-Systems CIS company	Company's business laboratory presentation
OOO Atos IT Solutions & Services	Company's training centre presentation
OOO NIKA-PETROTEK OAO Aeropribor – Voskhod	Company presentation
Central Black Earth Branch of PAO Sberbank Rossii	Concluding cooperation agreement Public lecture "Human capital assets as a key to success in business"
OOO SocTrade Co	Company presentation Cycle of lectures
AO FosAgro AG OAO Apatif OOO Metakhim OOO Atos IT Solutions & Services PAO Rostelecom OOO APK AgroEco OOO Voronezhagro OAO EFKO P&G GK Angstrom AO Svyznoi Bank PAO Sberbank Rossii OOO Rusfinance Bank OOO Bumblebee Company Zdorovye Ludy pharmacy chain Melodia Zdorovia pharmacy chain Zdorovy Gorod pharmacy chain Farmia pharmacy chain Farmaimpeks pharmacy chain Visitfarm pharmacy chain	Perspektiva forum Recruitment Fair
OAO Voronezh mine group ZAO Khokholsk sand quarry	Company presentation
OAO EFKO OOO SIBUR Innovations	Career day Company presentation
Event in Voronezh	Company presentation
Renaissance esthetic medicine clinic	Career day Company presentation

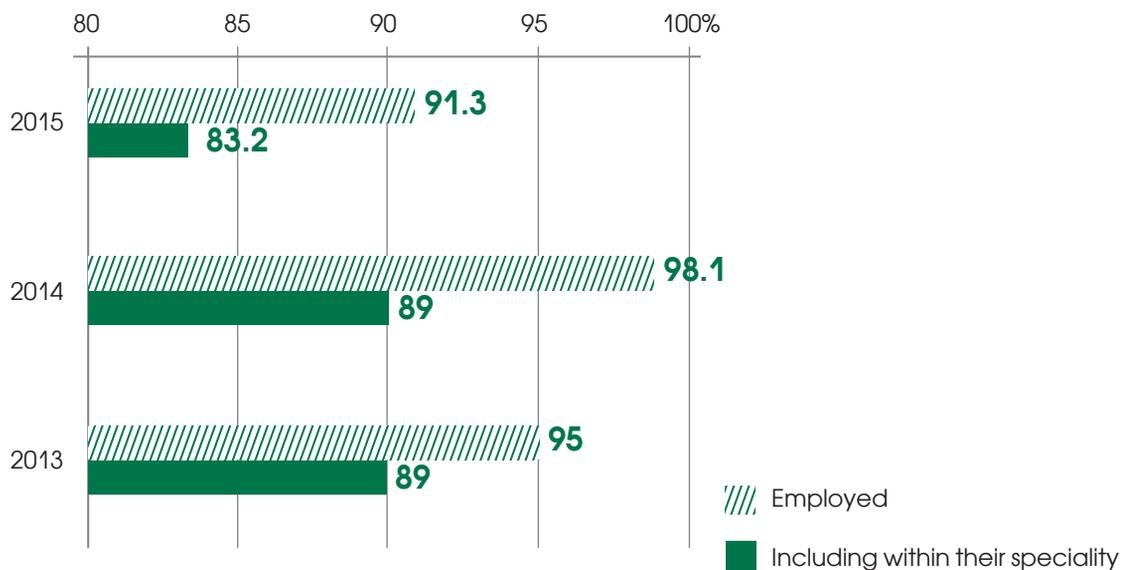


## GRADUATES' EMPLOYMENT MONITORING RESULTS

Among CCD's responsibilities is the monitoring of graduate employment aimed at studying graduates' distribution along employment channels, discovering specialities that are in high demand on the market, and specialities that offer less favourable employment opportunities. See VSU graduate employment indices for the last three years in Figure 6.5.

Figure 6.5

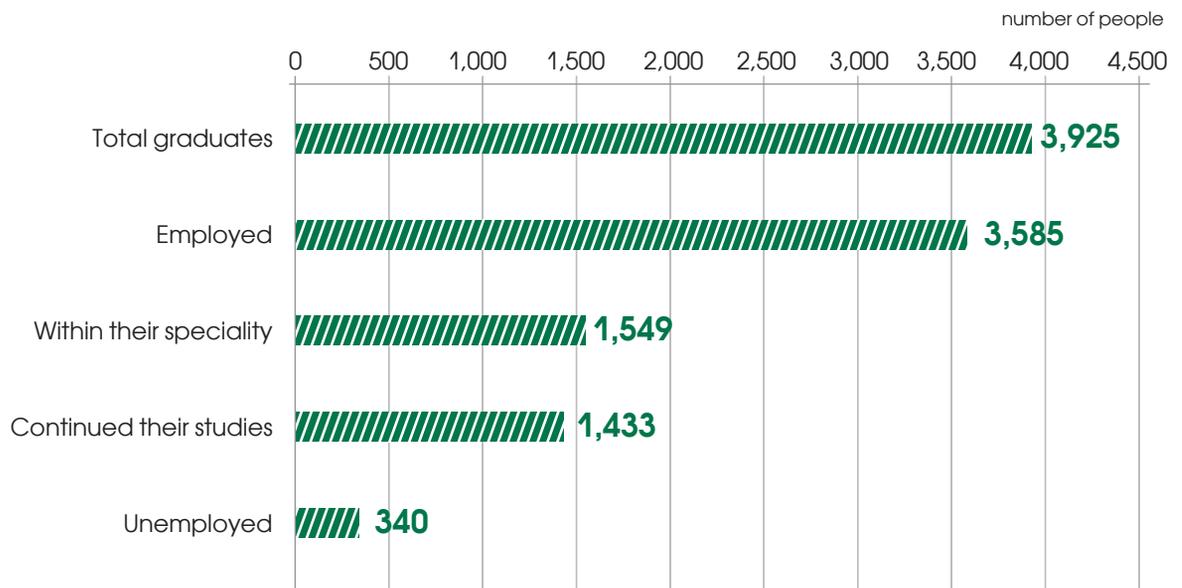
### VSU GRADUATE EMPLOYMENT INDICES FOR THREE YEARS (2013–2015), %



Specialists of the Centre for Career Development analysed the 2015 graduate employability index and concluded that it was seriously affected by the unfavourable economic environment of the Voronezh region (job cuts in the region and the city). It is considerably lower when compared with the previous year and amounts to 91.3%. See 2015 full-time graduate employment monitoring results in Figure 6.6.

Figure 6.6

2015 GRADUATE EMPLOYMENT MONITORING



According to the data presented by the Voronezh Region Employment Department about graduates who applied to employment service bodies and registered unemployed, in 2015 VSU graduates experienced more difficulties in the job search process compared to graduates in 2013 and 2014. As of December 2015, 3.5% of graduates (3,925 people) applied to employment service bodies and 1.5% of graduates are registered unemployed (see Table 6.11).

Table 6.11

GRADUATES WHO APPLIED TO EMPLOYMENT SERVICE BODIES

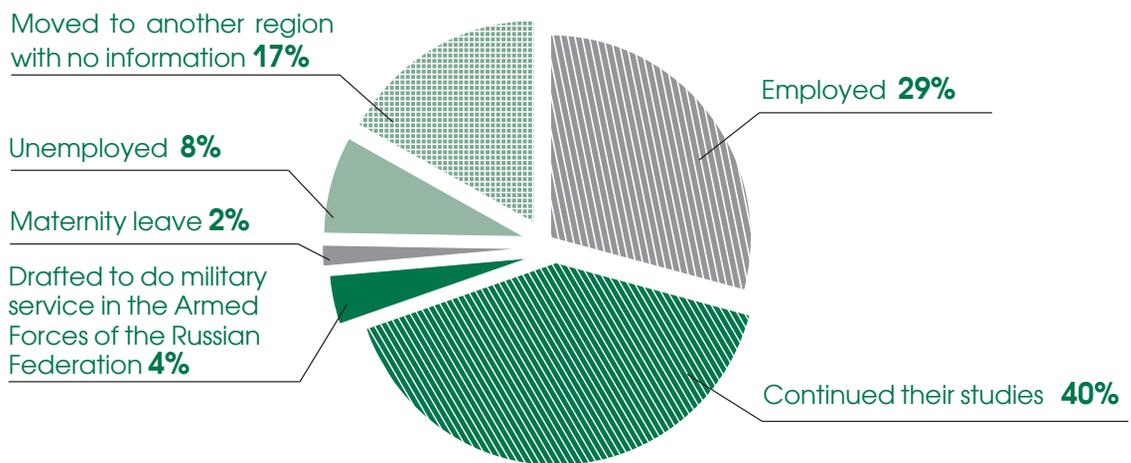
Year	Number of graduates who applied to employment service bodies	Number of graduates registered unemployed
2013	67	23
2014	47	10
<b>2015</b>	<b>139</b>	<b>58</b>



The analysis of graduate distribution along employment channels for 2015 shown in Figure 6.7 reflects the labour market situation. The number of graduates on maternity leave and drafted to do military service in the Armed Forces of the Russian Federation is 6%. The section "Continued their studies" increased over the last year. In the 2013/2014 academic year, this sector took 16% and due to the large number of bachelor's degree graduates in all departments, in 2015 it rocketed upwards to 40%.

Figure 6.7

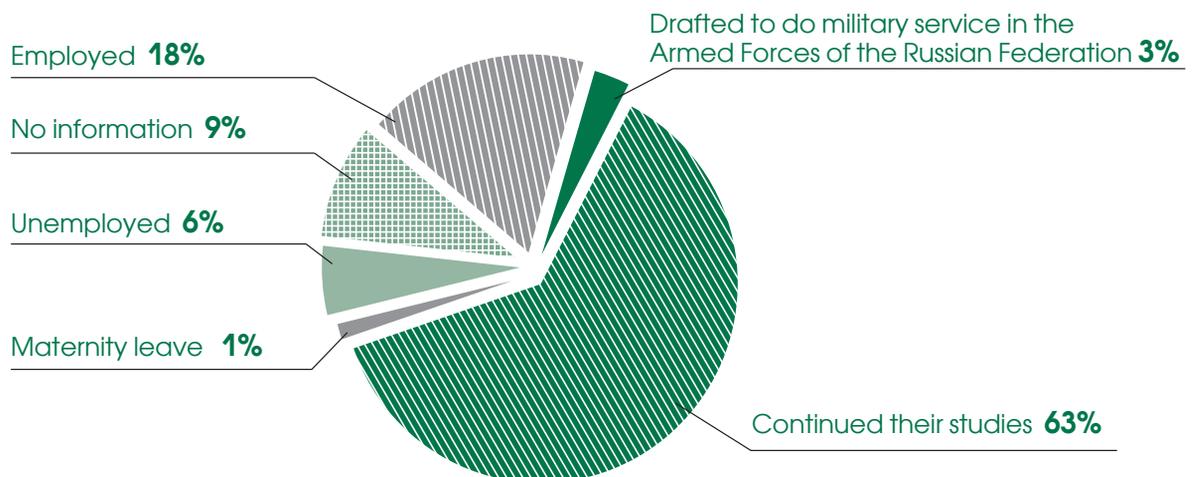
### 2015 GRADUATE DISTRIBUTION ALONG EMPLOYMENT CHANNELS



According to the analysis of 2015 VSU graduate distribution along employment channels, only 6% of bachelor's degree graduates (2,007 people) were unemployed, whereas 62% of graduates continued their studies and 23% found a job. As a result, 85% of bachelor's degree graduates were employed (Figure 6.8).

Figure 6.8

### BACHELOR'S GRADUATE DISTRIBUTION ALONG EMPLOYMENT CHANNELS

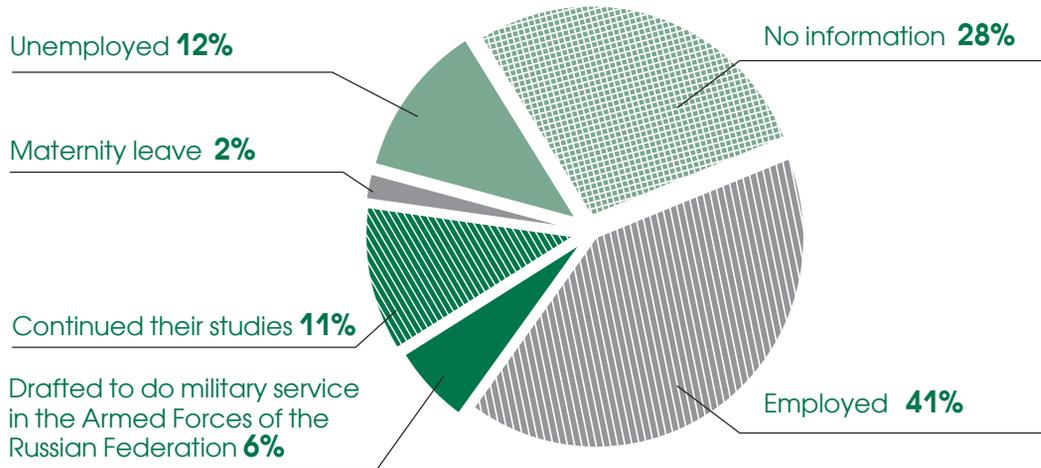




Specialist's (1,523 people) and master's (395 people) degree graduates experienced more difficulties in employment: 12% of specialist's degree graduates were unemployed, 11% of specialist's degree graduates continued their studies, and 47% were employed, i.e. 58% overall. There is no information about 28% of graduates (Figure 6.9).

Figure 6.9

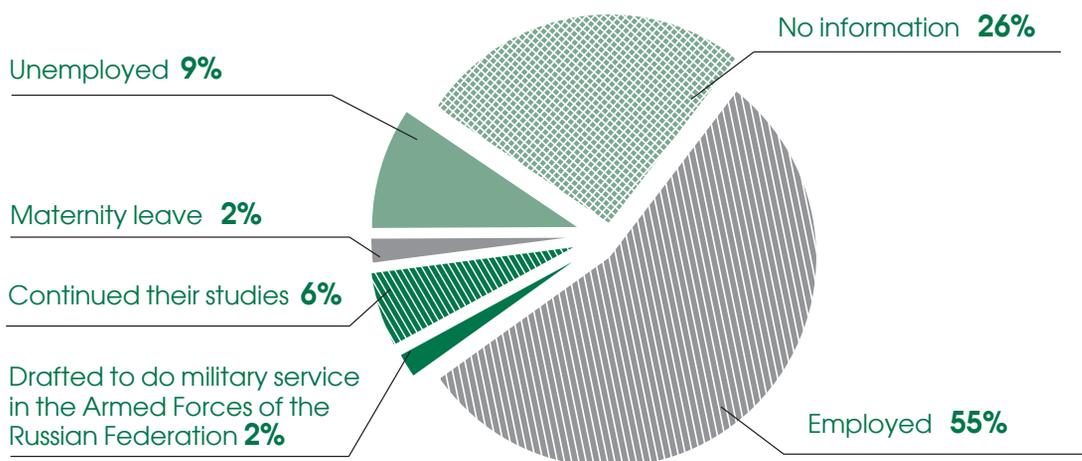
SPECIALIST'S DEGREE GRADUATE DISTRIBUTION ALONG EMPLOYMENT CHANNELS



9% of master's degree graduates were unemployed, 6% continued their studies and 59% found a job. However, 26% of master's degree graduates did not leave any information about their work places (Figure 6.10).

Figure 6.10

MASTER'S DEGREE GRADUATE DISTRIBUTION ALONG EMPLOYMENT CHANNELS





The highest labour market demand is for graduates of the following major groups of specialities:

- Mathematics and mechanics.
- Computer and information sciences.
- Informatics and computer facilities.
- Electronics, radio-engineering and communication systems.
- Pharmacy.
- Economics and management.

Due to of the current social and economic situation in the country, humanities and science graduates experience difficulties in primary employment.

According to the CCD activity analysis for the reporting period, the development goals for the graduate employment assistance system were achieved:

- The number of active vacancies and applications for job interviews is increasing – 48 companies listed 72 vacancies between 01.09.2014 and 01.09.2015 (in 2013/2014 academic year 17 companies listed 48 vacancies).
- 45 career guidance events aimed at assisting graduates find employment were organised and held (in 2014 – 40).
- New forms of interactions with employers were suggested: “Partner Company Open Day” – a tour of the company allowing students to learn more about manufacturing procedures and employment requirements (three tours in 2015), – and meetings with the representatives of Human Resource Departments of companies as a part of VSU presentation sessions.
- The database of potential employers was augmented by 23 companies (in 2014 – by 15 companies), and includes 56 VSU partner companies in total.

According to the results of the Graduate Employability Ranking of Universities published by the international company “Quacquarelli Symonds Ltd. (QS)” in November 2015, VSU was ranked outside the top 200.



## 6.11. OVERVIEW OF ACTIVITY RESULTS FOR THE DEPARTMENT OF INNOVATION AND BUSINESS'S SELF-SUPPORTING FACILITIES

The self-supporting facilities of Voronezh State University that were created within the framework of the Innovation and Enterprise Management Group (self-financing) were:

1. Engineering centre of innovative technologies for extraction of mineral resources.
2. Potential medicines testing innovation technologies laboratory.
3. Culture and Education Centre

### 1. ENGINEERING CENTRE OF INNOVATIVE TECHNOLOGIES FOR THE EXTRACTION OF MINERAL RESOURCES.

(Implementation of the project "Engineering Centre of Innovative Technologies for the Extraction of Mineral Resources" as a part of a project-based management target approach)

The main mission of the Engineering Centre of Innovative Technologies for the Extraction of Mineral Resources (Centre) is to create an in-demand analytic base covering customers' (subsoil users) requirements.

The Centre is fitted with equipment for the generation of heavy concentrates from ores and sands (Gemini concentrating table, centrifugal vibratory concentrator TsVK100, and vibrating sieves). The following equipment and workplace accreditation activities are carried out to enable X-ray powder diffraction analytical research: the Centre's staff completed internships that included training in modern Applied Mineralogy methods at the Department of Mineralogy of the All-Russia Research Institute of Physicotechnical and Radio Measurements (Moscow); reference standards are being prepared for diffractometer certification. The diffractometer is designed to perform X-ray diffraction quantitative phase analysis (XRDQPA) of black sand from Ti-Zr and gold sands; clay minerals (kaolinite, hydromica, and montmorillonite) XRDQPA, XRDQPA of various forms of silica in siliceous rock.



In 2015, the Centre fulfilled corporate orders totalling about 1.5 million roubles:

- OOO *Magma* (geological and technological maintenance of placers of the Orenburg region was implemented: a concept for the geological study and reserve assessment of the Karagachinsky licensed placer mine was developed; works were implemented under licensed agreements).
- ZAO *Primorzoloto* (sample preparation of trench-channel and geochemical samples of the Milogradov gold ore field was implemented).
- OOO *LIK* (the extraction of minor components when processing mortar sand was studied; new consulting services were provided, recommendations for the creation of an extraction process line were developed. Purchased a 4 million rouble line that consists of a dredger, a screen, a cartridge spiral separator, and centrifugal vibratory concentrator; two postgraduate students were involved in the work).
- OOO *Aspekt*, ZAO *Khokholsk sand quarry* (a unique heavy mineral extraction mining-beneficiation complex installation and testing).

## 2. POTENTIAL MEDICINES TESTING INNOVATION TECHNOLOGIES LABORATORY

Following the work plan, the laboratory developed methodological approaches to the assessment of the impact of melaxen, succinic acid, and chitosan derivatives on free-radical homeostasis in tissues of experimental animals with cerebral ischemia/reperfusion.

The target goals were achieved, that allowed an integral assessment and comparative analysis of the impact of chitosan succinate, N-succinylchitosan and melaxen in various doses on organism free-radical status in the process of rats' cerebral ischemic lesions progression. Analysed a wide range of parameters reflecting intensity of free radical oxidation, functioning of the antioxidant system and the functioning of some oxidative metabolism enzymes that can contribute to the control of free-radical processes. As a result, it allowed for the first time to implement an integral analysis of the effects of the studied substances in case of disorders associated with cerebrovascular pathology. The results of the research increases insight in cerebrovascular disease pathophysiologic mechanisms and allows us to search for new ways of correcting them, including prevention of the intensification of biomolecule free-radical oxidation– a universal heterospecific pathogenic component of a number of socially significant diseases. Evidence of the positive impact of chitosan succinate, N-succinylchitosan, and melaxen on free-radical homeostasis in the tissues of mammals opens up opportunities for their application in cerebral ischemic lesions treatment.

As a result of the conducted research, two articles were published in the journals "Biomeditsinskaya khimia" (Biomedical chemistry) and "Bulleten eksperimentalnoi biologii i meditsiny" (Experimental biology and medicine newsletter), one article in the journal "Vestnik Voronezhskogo Universiteta. Series: Chemistry. Biology. Pharmacy" (included in the list of referenced scholarly journals recommended by the State Commission for Academic Degrees and Titles), and nine papers in conference information packages.



### 3. CULTURE AND EDUCATION CENTRE

VSU's Culture and Education Centre (CEC, Centre) was opened in May 2015 in accordance with a decision taken by the Academic Council of 25 December 2012. It was created to discuss contemporary cultural issues with research, educational and public organisations, to increase the cultural level of the University, and to integrate VSU into the cultural life of Voronezh.

The goals of the centre include:

- To attract the best researchers, artists, representatives of public organisations to discuss socially important issues and to give lectures at VSU.
- To develop and enhance discussions about current humanitarian problems in the academic community and in media.
- To hold presentations, exhibitions, festivals, and other cultural events.
- To integrate the university's cultural and educational activities into the cultural events of the city.
- To search for commercial solutions for the various cultural projects and programmes of VSU.
- To integrate CEC into the activities of the Department of Innovation and Business.
- To enhance the university's reputation.

CEC regulatory documents were developed.

The Centre's activities were focused on the following objectives.

- Tourism. 5 sightseeing and tourism products were developed for VSU students and schoolchildren of Voronezh ("Galichya Gora puzzles", "The University Walks the Streets of the City", "From Old Book to a New One", "Voronezh and Literature", "Stars for Romanticists and Pragmatists"), a promotional brochure was published and the necessary documentation was developed and approved, 2 tours were conducted.
- Cultural exhibitions. Two art exhibitions were organised in the VSU History Museum: "Shades of the Day" – S. Zinenko, a Voronezh artist, a member of the Union of Russian Artists, and "Three Names. Three Genres" – painters of the 'Logos' artistic association (1 September – 9 October 2015) S. Golovskaya, A. Mestcherykova, and S. Khondo. All exhibitions were supported with print media materials (posters, brochures); in September, the project "VSU through the Eyes of Voronezh Artists" was held.



- Projects. Three applications were prepared and submitted. For participation in the Voronezh Youth Government grant contest (the project “Walk along with a Poet” (VSU following the Steps of O. E. Mandelshtam)); for participation in the Prokhorov Foundation grant contest (project “University-Cinema”); for participation in the federal target programme “Russian Culture in 2012–2018” grant contest (the project “Multimedia Equipment of the VSU History Museum and Creating Interactive exhibitions”).

The project “VSU Endowment Fund Public Fund Raising: VSU 100th Anniversary as a Symbolic Cultural Capital Resource” received a 200 thousand rouble Potanin Foundation grant.

Educational events included the lectures:

- “Modern Russian Literature in Hungary” – J. Goretity, professor, Director of the Institute of Slavic Studies at the University of Debrecen.
- “Social and Economic Aspect of the Problem “Power and Art” – O. Szűcs, professor at the University of Debrecen.
- “Text and Image in “Unofficial Culture” of 1960–1980-ies: Aesthetic Introspection and Creative Practice” – A.A. Zhitenev, DSc in Philology, literature critic, VSU lecturer.
- “Modern Art and New Museum Strategies” – N. E. Babkina, PhD in History, acting academic secretary of Kramskoi Voronezh regional art museum.
- “How to Understand Today’s Reality and What is Art Today?” – E. Kambalin, a Voronezh artist.
- “Del arte club” educational project – open art lecturers launched in cooperation with the travel agency “Na Chemodanakh”.
- University traditions. The “Day of knowledge” celebration was organised on 1 September 2015. An award ceremony for the Video Contest “VSU – Semper in motu!” was held.
- Endowment Fund. Development strategy, stakeholder cooperation methods, and project documentation preparation.
- VSU Alumni Association. A plenary meeting of the German Alumni’s Forum was held.
- “VSU Weeks” programme in Russian culture and research centre (Berlin) was developed.



## 6.12. VSU PARTICIPATION IN NATIONAL AND INTERNATIONAL EXHIBITIONS

In 2015, in order to promote the VSU brand and products, the university presented its collections at 1 international exhibition (Hannover, Germany) and 10 national exhibitions (in 2014 – 6 exhibitions) where 22 exhibits, including VSU SIB products were displayed.

See VSU participation in exhibitions for 2012–2015 in Table 6.12. The decrease in the number of international exhibition activities was caused by rising service costs and a decrease in the number exhibitions presented by Russia.

Table 6.12

### VSU PARTICIPATION IN INTERNATIONAL AND NATIONAL EXHIBITIONS (2012–2015)

VSU PARTICIPATION IN INTERNATIONAL AND NATIONAL EXHIBITIONS (2012–2015)	
2012	1. Exhibition of Innovation Projects and Developments by Young VSU Scholars and Innovation Companies of the Voronezh Region. 2. 4th International Intellectual Property Forum "Expipriority 2012". 3. Forum "Voronezh Region is Your Partner".
2013	1. Voronezh Industrial Forum. 2. Exhibition of Innovation Products for Housing and Utilities Infrastructure Organisations and Municipal State-Funded Institutions of Voronezh. 3. Open Innovations Expo exhibition, Moscow. 4. Forum "Voronezh Region is Your Partner", Voronezh. 5. VUZPROMEKSPO-2013, Moscow.
2014	1. 13th International Exhibition NDT Russia "Non-Destructive Testing and Technical Diagnostics in Industry", Moscow. 2. International Exhibition of Educational Technologies and Services, Paris, France. 3. II International Air Transport Forum, Ulyanovsk. 4. European Salon of Inventions "Lepine Contest", Strasburg, France. 5. International Conference and Exhibition for the Middle East Power Generation Industry "POWER-GEN Middle East", Abu-Dhabi, UAE. 6. VUZPROMEKSPO-2014, Moscow. 7. Open Innovations Expo Exhibition, Moscow. 8. 66th International Exhibition "Ideas – Inventions – New Products" IENA-2014, Nuremberg, Germany. 9. Exhibition for the Oil and Gas Industry of the Russian Federation, Voronezh. 10. Exhibition of the Innovation Projects by Young Scholars for "Sberbank Russia" Representatives, Voronezh.
2015	1. Kosmos-Neft-GasExhibition for Gazprom Company, 20 February 2015, Voronezh. 2. Kosmos-Neft-Gas Exhibition for Lukoil Company, 11 March 2015, Voronezh. 3. CeBIT 2015 Exhibition (information and telecommunication technology exhibition), 16–20 March 2015, Hannover, Germany. 4. Archimedes exhibition, 2–5 April, Moscow. 5. 8th Voronezh Industrial Forum, 26–27 February 2015, Voronezh. 6. "Start-up Village 2015", 2–3 June 2015, Skolkovo, Moscow. 7. Russian and Chinese Forum, 9-10 June, Moscow. 8. International Economic Forum of Municipalities, 24–25 September 2015, Moscow. 9. 14th International Exhibition NDT Russia "Non-Destructive Testing and Technical Diagnostics in Industry", 27–29 October 2015, Moscow. 10. VUZPROMEKSPO–2015, 2-4 December, Moscow. 11. Open Innovations Expo Exhibition, 28 October – 1 November 2015, Moscow.



See exhibits presented at the exhibitions in 2012-2015 in Table 6.13.

Table 6.13

EXHIBITS PRESENTATED AT THE EXHIBITIONS IN 2012–2015

EXHIBITS PRESENTATED AT THE EXHIBITIONS IN 2012–2015	
2012	<ol style="list-style-type: none"> <li>1. Russian3DScanner stereophotogrammetrical active 3-D scan system.</li> <li>2. A Range of Human-Machine interfaces.</li> <li>3. 3D Screen.</li> <li>4. Sun-light collector-based autonomous heat supply system.</li> <li>5. Wideband communication system model.</li> <li>6. Testing system for water media of various purposes.</li> <li>7. Industrial equipment and transport supply unit model.</li> </ol>
2013	<ol style="list-style-type: none"> <li>1. Seed and grain fibre-optic separator.</li> <li>2. SCPP-5. Solar thermal collector.</li> <li>3. Potentiometric automated complexes for express analysis of liquid media.</li> <li>4. Russian3DScanner stereophotogrammetrical active 3-D scan system.</li> <li>5. Measurement system for fibre heat-insulation material humidity control.</li> <li>6. SEP5001T.</li> <li>7. 14 dB Wi-Fi beam antenna system based on 802.11n standard.</li> <li>8. Human-computer interfaces.</li> <li>9. Exhibits presenting the university's innovation activity.</li> </ol>
2014	<ol style="list-style-type: none"> <li>1. Innovative technologies of nanostructured ceramics production.</li> <li>2. Anticorrosion protection of low-alloy steel with heterocyclic phosphonic acids.</li> <li>3. Innovative technology of preliminary thermomechanical treatment aimed at hardening cutting and measuring tools.</li> <li>4. Materials presenting the university's innovation activity.</li> <li>5. Membranes for extracting high-purity hydrogen from hydrogen-containing gases.</li> <li>6. 14 dB Wi-Fi beam antennas system based on the 802.11n standard.</li> <li>7. Innovative material for moisture absorption and retention.</li> <li>8. Ultrareliable power supply SEP5001T for the railway rolling equipment facilities.</li> <li>9. Video module.</li> <li>10. Seeds and grain fibre-optic separator.</li> <li>11. Independent device for determination of the extent of blood loss.</li> <li>12. Sorption materials for oil spill cleanups and soil replacement.</li> <li>13. Computer tomography visualisation simulator using visible radiation.</li> <li>14. Chitosan-based wound healing gel.</li> <li>15. SCPP-5. Solar thermal collector.</li> <li>16. SEP5001T.</li> <li>17. Posters of innovative projects by young scholars.</li> </ol>



End of table 6.13

2015

1. Moessbauer spectroscopy-based method for surface coat non-destructive testing.
2. Sorption materials for oil spill clean-ups, and soil replacement.
3. Innovative material for moisture absorption and retention.
4. Innovative technologies of nanostructured ceramics production.
5. Hardware and software for luminescence spectroscopy bio-tissues analysis.
6. Anticorrosion protection of low-alloy steel with heterocyclic phosphonic acids.
7. Innovative technology of preliminary thermomechanical treatment aimed at hardening cutting and measuring tools.
8. Multifunctional software system for implementation of new technologies of creating security-enhanced digital watermarks in order to protect multimedia digital object copyright.
9. Chitosan-based wound healing gel.
10. Development of technological solutions for formation of nanostructured hybrid membranes and creating on their basis potentiometric multisensor systems for water processing media reagentless express monitoring.
11. Development of a new technology and equipment for synthesizing nanoscale magnesian powders from recycled waste of enriched amorphous magnesite production.
12. Development of a programming and computing suite for the computer modelling of structural, sorption, and electronic properties of fullerenes and carbon nanotubes and adsorption processes.
13. Development of a technique for metastatic tumour growth post-operation monitoring by means of acellular freely circulating blood DNA analysis.
14. Development of energy-saving technologies used in the process of production of emulsifiers and emulsifying systems for food and non-food industry based on raw materials and their derivative products.
15. Development and enhancement of nanomaterials nuclear physical and X-ray diagnostic methods.
16. Fibre optic diagnostic and control tool for carious and non-carious pathology treatment.
17. New image super-resolution technology software.
18. ABAD cloud service for library services and archive-keeping process automation.
19. Ultra-wideband radioelectronic and location systems technology and techniques using ultra-short impulse signals of nano and sub-nanosecond duration.
20. Independent device for determination of the extent of blood loss.
21. Membranes for extracting high-purity hydrogen from hydrogen-containing gases.
22. Innovative technology of preliminary thermomechanical treatment aimed at hardening cutting and measuring tools.
23. Posters of innovative projects by young scholars.



### **6.13. VSU INNOVATION PORTAL (Implementation of the project “Modernising the Innovation Portal and creating the VSU Atlas of Innovative Projects” as a part of a project-based management target approach)**

In 2015, the innovation portal that provides information about VSU’s innovation and entrepreneurial activities was modernised. The portal includes information about the activities of the Department of Innovation and Business, which is a component of the university innovation infrastructure.

The portal homepage has an updatable VSU innovation events news feed.

To support interactive communications with potential customers the structure of the innovation portal consists of the following sections: innovation R&D results database, project database, and a catalogue of innovative projects.

The portal has an access counter to monitor the portal’s activity. In 2015, the innovation portal had 55,000 visitors. Website address: [www.innovation.vsu.ru](http://www.innovation.vsu.ru)

The goal of VSU’s Atlas of Innovative Projects is to enhance the introduction of the university’s R&D projects into production by utilizing increased marketing efficiency aimed at fulfilling VSU’s innovation potential. Atlas’ creation involves the following activities:

- Perform full-scale monitoring of the university’s innovation potential.
- Detect the most promising and in-demand R&D projects.
- Hold intellectual property rights protection events.
- Developed procedures for the preparation of electronic or printed presentations for the university’s most promising innovation R&D projects.
- All the university’s innovation infrastructure divisions interact with the VSU Publishing House and VSU Advertising Centre.

The VSU Atlas of Innovative Projects will be presented in three forms:

- An electronic version published on the university’s official website and innovation portal.
- An illustrated printed brochure.
- A set of ad-cards.

The first issue of the VSU Atlas of Innovative Projects is expected in the second quarter of 2016.



## VSU R&D PROJECT DATABASE

VSU's R&D project database was launched in 2013. Its goal is to systematise and select projects with high commercial potential. Databases are beneficial to technological platforms, for exhibitions, and for cooperation with industrial enterprises, organisations, and regional and municipal bodies.

In 2015, VSU's R&D project database increased in size by 23 projects and now contains 101 projects. The following faculties were most active and provided descriptions of their projects for the database: the Faculty of Geology, the Faculty of Pharmaceutics, and the Faculty of Chemistry (Table 6.14).

Table 6.14

### NUMBER OF R&D PROJECTS INCLUDED IN THE DATABASE IN 2015

Faculty	Number of projects Included into the database
The Faculty of Geology	5
The Faculty of Pharmaceutics	5
The Faculty of Chemistry	5
The Faculty of Biology and Soil Sciences	3
The Faculty of Applied Mathematics, Informatics and Mechanics	2
The Faculty of Philology	1
The Faculty of Journalism	1
The Faculty of Physics	1
<b>TOTAL</b>	<b>23</b>

## 6.14. UNIVERSITIES AND BUSINESS COOPERATION RANKING

In accordance with the joint decision of the Council of Rectors and the Chamber of Commerce and Industry of the Voronezh Region, in 2015, regional enterprises were monitored to identify members of the business community actively involved in cooperation with universities.

As a result, a ranking of regional enterprises was created. It assessed the involvement of enterprises in cooperation with universities and analysed problems detected by industrial associations.

The ranking included 11 areas of cooperation between enterprises and universities:

- Establishment of fundamental departments.
- Foundation of corporate training centres.
- Joint participation in federal target programmes.
- Joint hi-tech production projects in accordance with the Order of the Government of the Russian Federation of 9 April 2010 No. 218.
- Research, technological, and design and experimental work contracts.



- Further professional education programmes completed by staff members (advanced training and professional retraining courses).
- Higher education training contracts (financed by enterprises).
- Practice and internships completed by students of higher education programmes.
- University students' employment.
- Contributions to university Endowment Funds.
- Personal scholarships for students of higher education programmes founded by enterprises.

The ranking included 750 organisations involved in cooperation with 39 regional universities. The data presented in the ranking was taken on 31 December 2014. Financing and quantitative data for each ranking parameter were collected and analysed regardless of their source (provided by enterprises or by other sources). In accordance with the decision of the Council of Rectors of the Voronezh region, all regional universities participated in the data collection.

The best results were demonstrated by nine enterprises (all of them are VSU partners):

- *OOO Voronezhselmash*
- *OAD Efimoye (EFKO)*
- *OAD Turbonasos*
- *PAO Voronezh aircraft manufacturing society*
- *AO VZPP Mikron*
- *OAD Borisoglebsk instrument engineering plant*
- *OOO Atos IT Solutions & Services*
- *OOO Clinical ophthalmology centre Medinvest*
- *OOO Voronezh carrier company Logistil*

The ranking results attracted the attention of the Voronezh Region Government, Regional Chamber of Commerce and Industry, the Council of Rectors of the Voronezh region, the Association of Councils of Rectors of the Central Black Earth Region, regional universities, and the staff of the companies that cooperate with universities. It was agreed that regular ranking analyses of this kind would be highly beneficial.

Following the ranking results the brochure "Enterprises and universities: ranking of cooperation performance" was published (VSU, 2015).

## 6.15. LIST OF PERSONAL SCHOLARSHIPS, FUNDAMENTAL DEPARTMENTS, CORPORATE TRAINING CENTRES, AND CORPORATE MASTER'S PROGRAMMES

### EMPLOYER-FUNDED PERSONAL SCHOLARSHIPS RECEIVED BY VSU STUDENTS

1. Scholarships from the **data provider Informsvyaz-Chernozemye** (awarded on a competitive basis and received by VSU students for 14 successive years). In 2015, 12 scholarships were awarded, including: 5 scholarships to the students of the Faculty of Applied Mathematics, Informatics, and Mechanics; 5 scholarships to students of the Faculty of Computer Sciences; 1 scholarship to a student of the Faculty of Physics; and 1 scholarship to a student of the Faculty of Mathematics. The scholarship is paid every month over an academic year and is worth 5,000 roubles/month.
2. In 2015, 10 VSU students were selected by the enterprise to receive scholarships by **PAO Novolipetsk Steel**. The scholarships were awarded to 4 students of the Faculty of Chemistry; 4 students of the Faculty of Applied Mathematics, Informatics and Mechanics; and 2 students of the Faculty of Economics. The scholarship is paid every month over an academic year and is worth 4,000 roubles/month.
3. In 2015, following the results of a contest **PricewaterhouseCoopers Russia B.V.** awarded two lump sum scholarships to the students of the Faculty of Economics worth 36 thousand roubles.

See information on VSU fundamental departments, corporate training centres, and corporate master's programmes in Tables 6.15–6.17.

Table 6.15

### VSU FUNDAMENTAL DEPARTMENTS IN 2015

No	Fundamental department	Faculty, programme	Partner company	Number of academic staff members	Number of students (per year)
1	Fundamental Department of Natural Compounds Chemistry	Faculty of Chemistry, a master's programme	OAO <i>EFKO</i>	2	5
2	Fundamental Department of Additive Technologies	The Faculty of Physics	OOO <i>Voronezhselmash</i>	2	3
3	Fundamental Department of Electronics	The Faculty of Physics, two master's programmes	AO <i>Sozvezdiye</i>	18	15
4	Department of Database Technologies	The Faculty of Applied Mathematics, Informatics and Mechanics	ZAO <i>NPP RELEKS</i>	7	30
5	T-Systems' Department of Applied Information Technologies	The Faculty of Applied Mathematics, Informatics and Mechanics	<i>T-Systems</i> (Germany)	6	29
6	Department of Information Systems for Energy Production	The Faculty of Applied Mathematics, Informatics and Mechanics	OOO <i>Enfors</i>	3	8

Table 6.16

## CORPORATE TRAINING CENTRES

No	Name	Partner company	Faculty
1	Centre of Research and Education	ZAO NPP RELEKS	The Faculty of Applied Mathematics, Informatics and Mechanics
2	Training centre	OOO Atos IT Solutions & Services	The Faculty of Computer Sciences
3	Embedded-Systems training centre	DSR-corporation (USA), OTSL (Japan)	The Faculty of Computer Sciences
4	Infotech academic manufacturing centre	NetCracker (USA)	The Faculty of Computer Sciences
5	Oracle Training Centre	IT Consulting	The Faculty of Computer Sciences
6	Microsoft IT Academy	Microsoft IT Academy	The Faculty of Computer Sciences
7	InfoTeCS training centre	InfoTeCS	The Faculty of Computer Sciences
8	SAP certification centre	OOO SAP CIS	The Faculty of Computer Sciences
9	INLINEGROUP training centre	Inline Group Center	The Faculty of Computer Sciences
10	Accounting and Taxation in PAO Rostelecom corporate training centre	PAO Rostelecom	The Faculty of Economics

Table 6.17

## CORPORATE MASTER'S PROGRAMMES

No	Programme	Customer company	Faculty
1	Corporate master's programme "Accounting, Analysis and Audit"	Voronezh Regional Federal Treasury Department	The Faculty of Economics
2	Corporate master's programme "Financial Analyst: Investments, Credit Standing, Risks"	Central Black Earth Branch of PAO Sberbank of Russia	The Faculty of Economics
3	Corporate master's programme "International audit"	ZAO PricewaterhouseCoopers Audit	The Faculty of Economics
4	Corporate master's programme "Management Consulting"	International consulting company J&M Management Consulting (J&M)	The Faculty of Economics
5	Corporate master's programme "SAP Systems Management"	OOO Atos IT Solutions & Services	The Faculty of Computer Sciences
6	Project and service management in information technologies	OOO Atos IT Solutions & Services	The Faculty of Computer Sciences
7	Corporate master's programme in organic chemistry	OAO EFKO	The Faculty of Chemistry



## 6.16. VSU ENDOWMENT FUND

The VSU Endowment Fund was founded in March 2013 to attract additional resources to provide long-term financing of the University's research, social, and infrastructural programmes and projects. The supreme corporate body of the Management Fund is the Management Board that decide on the main issues concerning the Fund's activities, including expenditure targets for the previous year's revenue. The endowment's assets are held under trust by *ZAO Gazprombank – Assets Management*.

According to the results of 2014, the revenue from holding the endowment's assets in trust amounted to 400,144 roubles. The Fund Management Board decided (Record No. 7 of 3 June 2015) to spend the revenue on the payment of a lump sum of 6 thousand roubles to long-service employees with a length of service to the University of over 50 years. This year 48 people received such payments.

Fund raising among VSU business partners and graduates continued. 120 submission letters were sent to potential contributors. The largest donation was offered by *AO Gazprombank* that contributed 1 million roubles. New donations made in 2015 amounted to 1,618,800 roubles. By the end of the year, the endowment's assets reached 14,687,000 roubles. The market value of the assets constituting the endowment was 17,248,000 roubles. The revenue from the discretionary management of the VSU Endowment Fund in 2015 was 22%, i.e. 2,700,000 roubles in absolute terms (excluding remuneration for the management company). The Board of Trustees and the Management Board will decide how to spend the income for 2015.

See Fund contributions dynamics in Figure 6.11.

The Innovation and Enterprise Management team was among one of the winners of the Charitable Programme for supporting the development of endowment funds in Russia "Endowment Funds: Growth Strategy" organised by the Potanin Charitable Foundation. The duration of the programme is two years. The participants of the project are expected to complete the course "Endowment Fund Foundation and Development Strategy" at SKOLKOVO Moscow management school and take part in the project "VSU Endowment Fund Public Fund Raising: VSU 100th Anniversary as a Symbolic Cultural Capital Resource" supported by the Potanin Foundation.

Current data about the Fund's activity as well as its Annual Report and Audit Report can be found on the Fund's website (URL: <http://www.vsu.ru/endowment-fund/>).

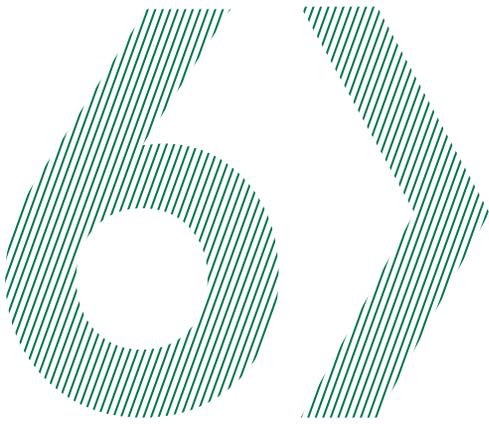
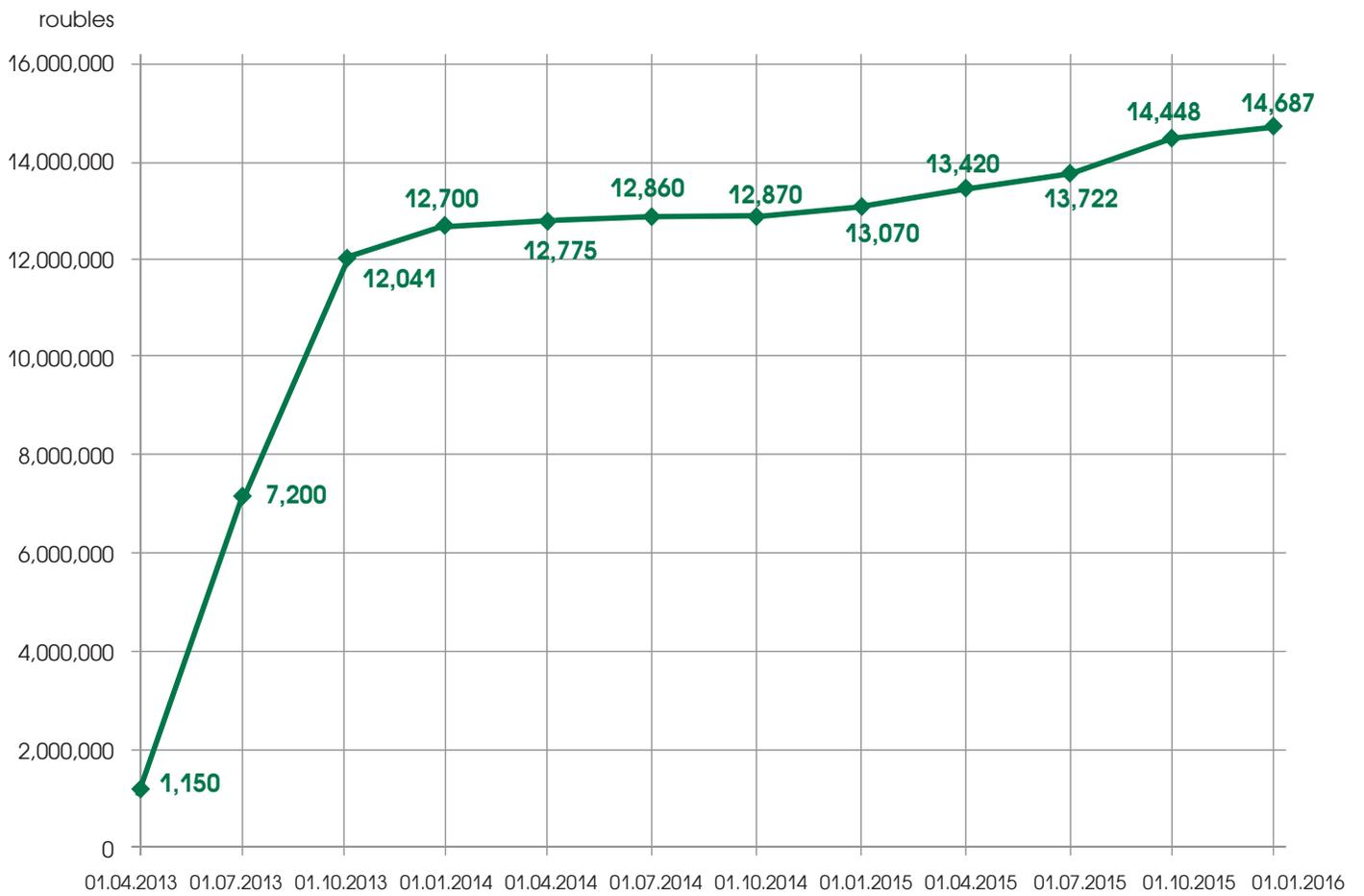


Figure 6.11

### VSU ENDOWMENT FUND CONTRIBUTIONS DYNAMICS





## 6.17. VSU ALUMNI ASSOCIATION

The non-profit partnership, VSU Alumni Association, was founded in 2012. The number of registered users of the Association's website currently stands at about 200 people.

In 2015, three Alumni Association Council meetings were held. A plan of activities and the annual expense budget were agreed in accordance with the Charter.

The Partnership Council recommended a project by VSU graduate D. A. Kouda "Tournament of Three Sciences" for participation in the contest for subsidies for socially-oriented non-commercial organisations doing projects in the framework of the sub-programme "Enhancing State Support of Socially-Oriented Non-Commercial Organisations" of the state programme of the Voronezh region "Public Social Support". The project received a 300,000 subsidy and it will be implemented in 2016.

Between 25 and 27 August 2015, the German Alumni Forum was held at VSU, with a 30-strong delegation of VSU graduates from Germany and VSU friends (DAWU). The Forum programme had both formal events and a varied entertainment programme.

The following guests took part in the plenary meeting of the Forum:

- Director of the International Department of the Ministry of Education of the Russian Federation N. R. Toivonen.
- Deputy Head of the representative office of German Academic Exchange Service (DAAD) at the German embassy in Russia M. Krispin.
- Head of Voronezh representative regional office of the Ministry of Foreign Affairs of the Russian Federation S.L. Laptev.
- Co-director of XI International Summer School Rodrigo von Horn.

During the German Alumni Forum, the participants had meetings with the academic staff of the following faculties: the Faculty of Chemistry, the Faculty of Philology, the Faculty of Law, the Faculty of History, and the Faculty of Philosophy and Psychology. They discussed various theoretical and practical issues, as well as further cooperation opportunities.

The VSU Alumni Association's website ([www/alumni.vsu.ru](http://www/alumni.vsu.ru)) regularly published information about events open to VSU graduates and for other visitors.



## 6.18. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2015

1. In 2015, the consolidated financial results from innovation activities amounted to over 350.6 million roubles (in 2014 – 365.2 million roubles).
2. VSU successfully concluded a hi-tech production project (in the framework of the Order of the Russian Government No 218). Federal financing in 2015 amounted to 76 million roubles. The share of compensation for researchers under the age of 35 amounted to 39.8% of the total project compensation fund.
3. Seven projects were conducted in the framework of the federal target programme “Research and Development in Top-Priority Areas of Science and Technology in Russia for 2015-2020” with 71.62 million rouble total federal financing. Co-financing of industrial partners amounted to 107.79 million roubles (without withdrawal from current assets). Compensation for researchers under the age of 35 amounted to 44.5% of total project compensation fund. The projects implemented in cooperation with industrial enterprises are in line with the top-priority areas for the economic development of the Voronezh region.
4. VSU implemented projects aimed at developing continuing professional development programmes (further training programmes) for engineering staff (RUSNANO, the Ministry of Education and Science of the Russian Federation). Total financing of existing contracts was 2.8 million roubles.
5. The development of patent and license activities was continued. VSU created 110 copyrightable intellectual property items, 94 applications were prepared. The number of submitted applications for inventions almost doubled and amounted to 49 applications.



6. In 2015, the Foundation for Assistance to Small Innovative Businesses in Science and Technology supported 6 VSU SIBs in the framework of the START programme, and 14 projects in the framework of programme "Participant of the Youth Scientific and Innovation Contest "U.M.N.I.K." with total financing of 8.7 million roubles.
7. To promote the VSU brand and products, the university's collections were presented in 10 national exhibitions and 1 international exhibition. They presented 22 exhibits, including products developed by VSU's SIBs.
8. In 2015, four new SIBs were founded (31 business companies were registered in total). In 2015, VSU SIB services and production amounted to 76.4 million roubles.
9. Young researchers submitted 39 projects for the "Innovation Cup" contest – the annual innovation project contest held between Voronezh universities. VSU won four prizes and was awarded with the symbolic Innovation Cup and a 750 thousand rouble grant as the best innovation university in the region.
10. VSU's graduate employment indices for 2015 were 91.3% of the total number of full-time students, including 40% of graduates who decided to continue their studies.
11. According to the results of the Graduate Employability Ranking of Universities published by the international company "Quacquarelli Symonds Ltd. (QS)" in November 2015, VSU was ranked outside the top 200.
12. The endowment assets of the VSU Endowment Management Fund reached 14,687,000 roubles. The revenue from the discretionary management of the VSU Endowment Fund in 2015 was 22%, i.e. 2,700,000 roubles.



## PROJECT “VSU PUBLISHING HOUSE DEVELOPMENT” (continued)

Analysis of VSU Publishing House’s (hereinafter VSU PH) revenues for 2015 shows an increase in the volume of products (Table 1, Figure 1–2).

For example, the sales revenue in 2015 (17,190,300 roubles) compared to the 2014 figures (8,450,000 roubles) amounted to 203.4%. Average monthly revenue in 2015 amounted to 1,432,500 roubles (in 2014 – 704,200 roubles).

In 2015, VSU PH continued to develop its commercial activities. For instance, commercial contracts with an overall value of 2,827,500 roubles were processed in the previous year, that is 120.21% against the figures from 2014 (2,352,200 roubles), and 458.1% compared to the figures from 2013.

Table 1

### VSU PH SALES REVENUE IN 2013–2015, roubles

No	Item	Total in 2013	Monthly average in 2013	Total in 2014	Monthly average in 2014	Total in 2015	Monthly average in 2015
1	Sales revenue	5,583,300	465,300	8,450,000	704,200	17,190,300	1,432,500
2	Including commercial contracts	617,200	51,400	2,352,200	196,000	2,827,500	235,600



Figure 1

SALES REVENUE

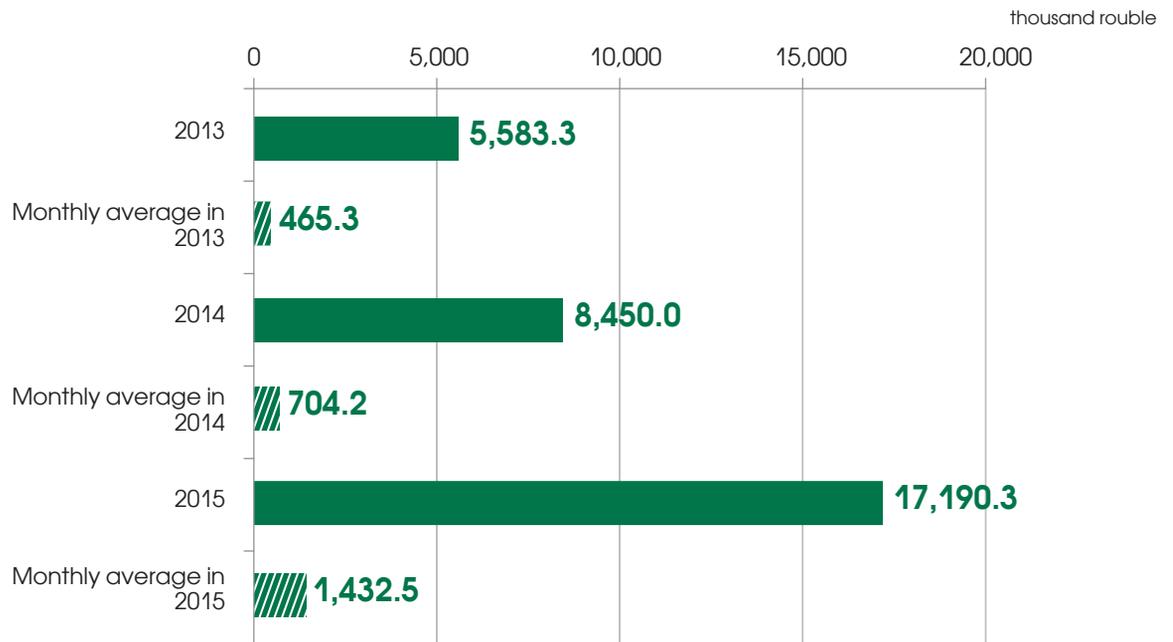
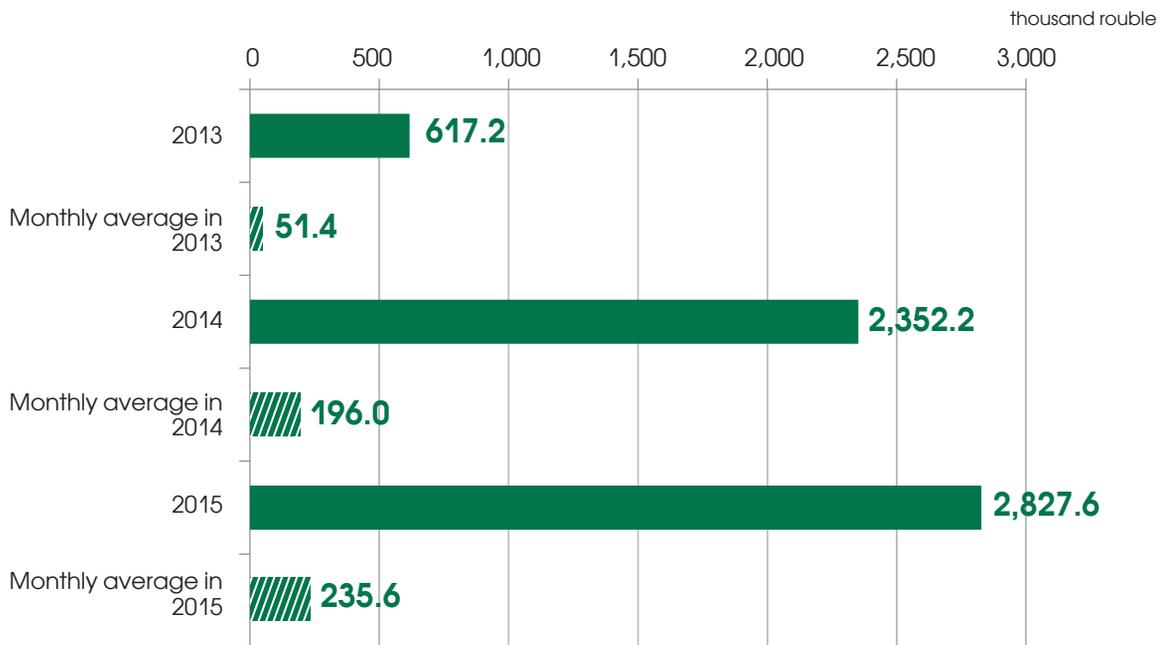


Figure 2

COMMERCIAL CONTRACTS





The key activity of VSU PH is book publishing. In 2015, the production of books (hard- and softcover) was 75% of turnover. Sales revenue from sheet full colour printing amounted to 14%, printing of forms – 4%, and other small printing services (business cards, invitations, bookbinding, etc.) – 7%.

In 2015, as a result of the key activities, 488 titles were prepared and issued, including 85 textbooks, 215 teaching aids, 58 journals of different series, including “Proceedings of Voronezh State University”, and 130 literary titles.

### **ENHANCEMENT OF VSU PH FACILITIES IN 2015**

In February 2015, a Konica Minolta bizhub PRESS 1250/P (currently the world’s best instant printing black and white print system) and a Konica Minolta colour digital press bizhub PRESS C 1070 were purchased and commissioned. In 2015, these print systems allowed the printing of 1,555,261 A4 black and white and 916,776 A4 colour sheets.

In 2015, the digital printing facility and printing department were renovated.

### **VSU PH EDITORIAL POLICY FOR 2016**

VSU PH editorial policy is defined by the Voronezh State University Editorial Advisory Board.

#### **1. Text books and teaching aids publishing**

In 2016, textbooks and teaching aids for all VSU faculties, as well as the “Vestnik Voronezhskogo Universiteta” series of journals will be published based on the decision of the VSU Research and Methodology Board and in accordance with the annual VSU editorial calendar. The cost of consumables for the production of the above-mentioned products will be covered by the University’s budget (publications included in the editorial calendar), or by the faculty budget (publications not included in the editorial calendar). The cost of the production cycle for the above-mentioned products will be determined by the existing university administration directive.

#### **2. Monograph publishing**

The publishing procedure for monographs by VSU professors and staff consists of three stages. First, applications supported by internal and external reviews are submitted to VSU PH. Then they are forwarded to members of the dedicated expert committee of the



Editorial Advisory Board of Voronezh State University, who examine them and decide if they can be financed by VSU. In case of a favourable decision, VSU PH proceeds with publishing, for which the university internal pricelist applies. In case of an unfavourable decision, the monograph publishing is charged according to the commercial pricelist.

### **3. Other literature publishing**

Other literature publishing is charged in accordance with the commercial pricelist.

#### **LIST OF VSU PH SERVICES**

- Publishing of books, journals, brochures, forms, posters, and drawings.
- Production of booklets, business cards, certificates, and calendars.
- Desktop publishing and design.
- Editing.
- Proofreading.
- Binding.
- Laminating.
- Blocking.
- Paper cutting.
- Photocopying.





# **ECONOMIC AND INTERNATIONAL COOPERATION**





## ECONOMIC AND INTERNATIONAL COOPERATION



**Oleg Belenov,**  
Vice Rector for Economics  
and International  
Cooperation

### 7.1. VSU'S MAIN OBJECTIVES IN THE AREA OF ECONOMICS AND FINANCE IN 2015

The plan of Voronezh State University financial and business operations for 2015–2017 was made and approved as a financial document that stipulated the required conditions. This included the social, cultural, sports, leisure, and recreational infrastructure necessary for education, professional activities, research, experimental projects, design and technological work, creative development, and healthcare of the students, academic and research staff, as well as other University employees.

#### VSU'S MAIN OBJECTIVES IN THE AREA OF ECONOMICS AND FINANCE IN 2015

- At least 2,405 million roubles to be deposited in the VSU budget.
- The ratio of the average salary of VSU academics and teaching staff compared with the average salary in the Voronezh region to reach at least 133%.
- The monthly bonus for the educational support personnel to be maintained at 30%.
- The monthly bonus for the operating personnel to be increased from 15% to 20% of the basic salary.
- The monthly bonus for the educational support personnel of the Regional Scientific Library to be increased from 15% to 20% of the basic salary.
- The monthly bonus of 20% of the basic salary to be introduced for the educational support personnel of the Botanical Garden.

## 7.2. INCOME STRUCTURE BY THE SOURCE OF FINANCING IN 2015

Total receipts in 2015 amounted to:

**2,405,547.1** thousand roubles, including (Table 7.1, Figure 7.1):

- Government order subsidies – **942,603.2** thousand roubles.
- Targeted subsidies – **373,962.9** thousand roubles.
- Budget investments – **20,000** thousand roubles.
- Receipts from the provision of services to natural and legal persons on a fee-paying basis – **1,068,981.0** thousand roubles.

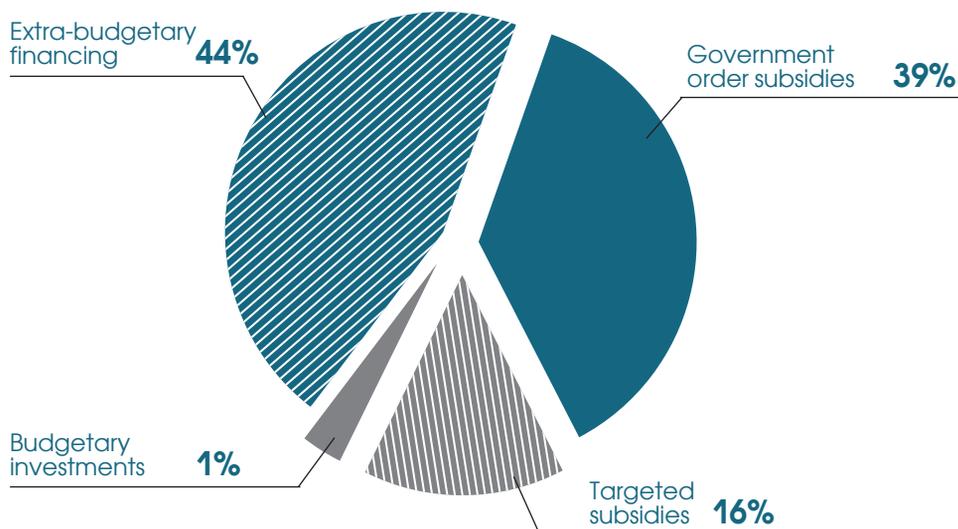
Table 7.1

INCOME STRUCTURE BY THE SOURCE OF FINANCING, thousand roubles

Income obtained in 2015			Total
Subsidies	Budget subsidies	Extrabudgetary funds	
1,316,566.1	20,000	1,068,981.0	<b>2,405,547.1</b>

Figure 7.1

INCOME STRUCTURE BY SOURCE OF FINANCING, thousand roubles





### 7.3. INCOME IN 2015 COMPARED TO 2014, BROKEN DOWN BY STATE FUNDING, EXTRA-BUDGETARY FUNDING, AND TOTAL

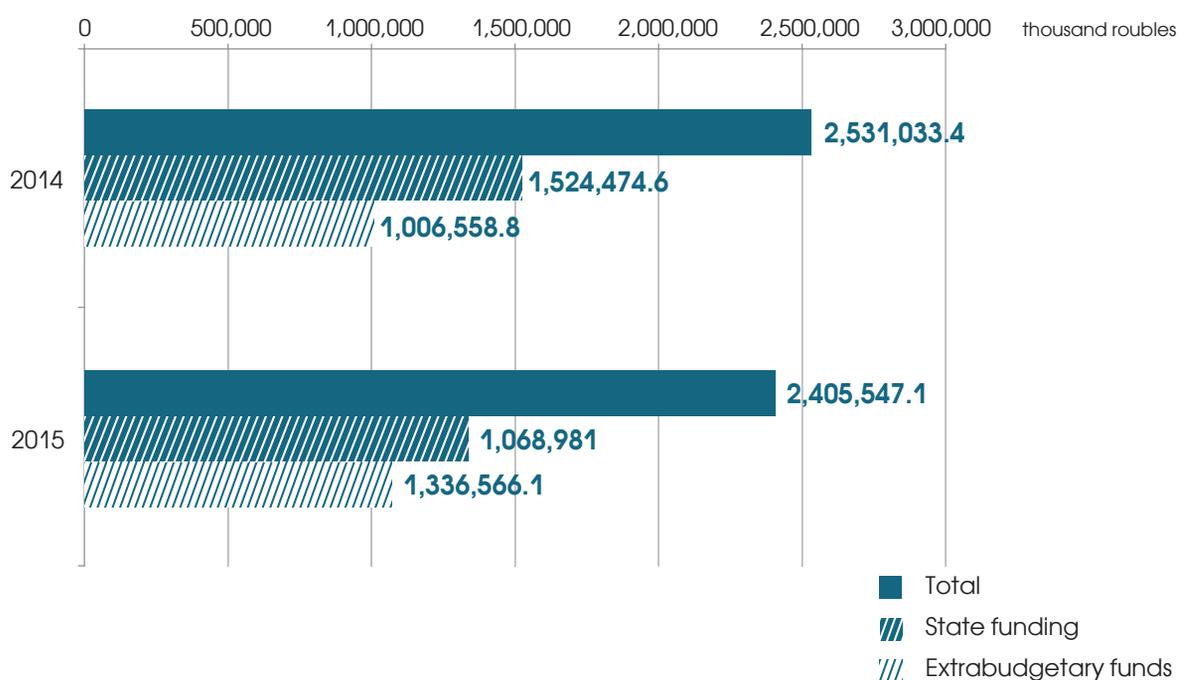
Compared to 2014, the total income in 2015 decreased by 125,486.3 thousand roubles, or 5% (Figure 7.2).

- Overall, the fall in the income was due to a cut of 187,908.5 in state funding, including:
  - A decrease of **47,869.8 thousand roubles** in government order subsidies.
  - A decrease of **30,838.7 thousand roubles** in targeted subsidies.
  - A decrease of **109,200 thousand roubles** in budgetary investments.
- Reasons for the decrease in the receipts of budget funds:
  - A decrease in government order subsidies due to the end of financing for the University’s Strategic Development Plan (implemented in 2012–2014; total amount **238.2 million roubles**);
  - A decrease in targeted subsidies due to a decrease in research funding.
  - A decrease in budgetary investments due to the completion of construction and commissioning of the residence hall.

In 2015, extra-budgetary funding grew by **62,422.2 thousand roubles**.

Figure 7.2

#### INCOME INCREASE IN 2015 COMPARED TO 2014



## 7.4. 2015 BUDGET EXPENDITURE REPORT

Table 7.2

### 2015 BUDGET EXPENDITURE REPORT RESULTS

Cost item, thousand roubles	Subsidies	Extrabudgetary funds	Total	Percentage, %
211 Salaries and wages	511,009.20	543,510.90	1,054,520.1	42.8
212 Other payments	1060.10	5380.20	6440.3	0.3
213 Payment charges	146,461.80	137,213	283,674.8	11.5
221 Communication services	0	5501.4	5501.4	0.2
222 Transport services	2617.30	13,541.6	16,158.9	0.7
223 Utility costs	46,898.90	39,594.2	86,493.1	3.5
224 Property rental	0	204.5	204.5	0
225 Maintenance works and services	17,631.6	15,032.3	32,663.9	1.3
226 Other works and services	53,161.8	82,683.8	135,845.6	5.5
262 Welfare benefits	25,649.4	0	25,649.4	1
290 Other operating expenses	319,896.7	24,490.3	344,387	14
310 Increase in fixed assets value	54,440.1	101,280	155,720.1	6.3
Construction	83,500	0	83,500	3.4
340 Increase in material asset value	16,277.8	83,028.2	99,306	4
290 Land tax	21,836.7	0	21,836.7	0.9
290 Property tax	21,014.1	0	21,014.1	0.9
Financing of Borisoglebsk branch	57,239.7	0	57,239.7	2.3
Receipts for special-purpose research	30,975	0	30,975	1.3
231 Internal debt maintenance	0	2426.7	2426.7	0.1
<b>Total</b>	<b>1,409,243.9</b>	<b>1,053,887.1</b>	<b>2,463,131</b>	<b>100</b>

The excess expenditure over the cash inflow in 2015 is due to the following reasons:

- The amount of expenditure includes public obligations to welfare aid for orphaned children totalling **25,649.4 thousand roubles**.
- As of 1 January 2015, there was a cash balance of **63,500 thousand roubles** for the construction of the swimming pool.



## 7.5. INCOME BY FACULTY AND PERCENTAGE OF THE TOTAL INCOME

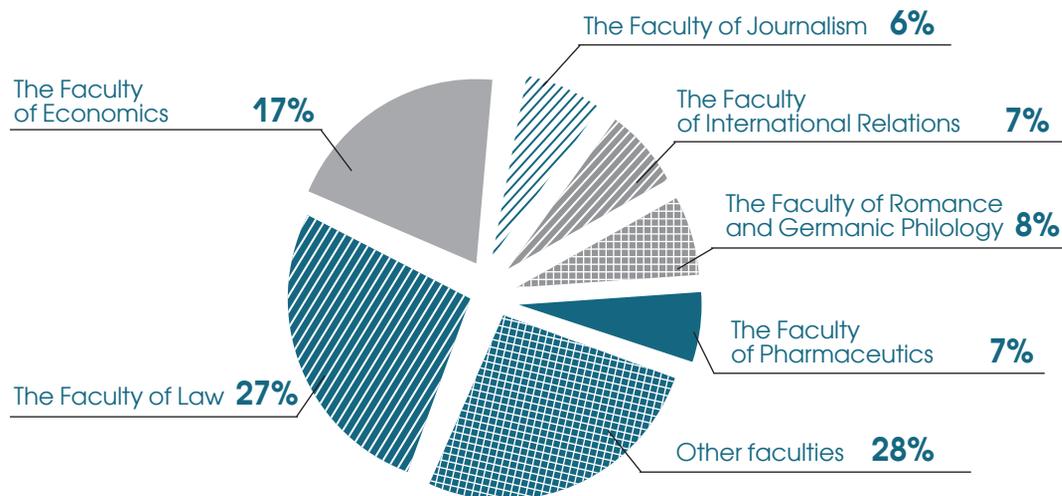
Table 7.3

### INCOME BY FACULTY AND PERCENTAGE OF THE TOTAL INCOME

Faculty	Income, roubles		Percentage, %	
	2014/15 07/01/14 to 01/31/15	2015/16 07/01/15 to 01/31/16	2014/2015 academic year	2015/2016 academic year
The Faculty of Biology and Soil Sciences	2,748,390	1,788,045	0.5	0.3
The Faculty of Geography, Geocology, and Tourism	5,793,442	5,292,028	1.1	0.9
The Faculty of Geology	4,085,665	4,638,425	0.7	0.8
The Faculty of Journalism	33,426,330	35,890,400	6.1	6.4
The Faculty of History	14,565,514	12,088,900	2.7	2.2
The Faculty of Computer Sciences	13,428,715	12,754,250	2.5	2.3
The Faculty of Mathematics	1,748,668	1,794,000	0.3	0.3
The Faculty of International Relations	42,155,413	41,275,460	7.7	7.4
The Faculty of Applied Mathematics, Informatics, and Mechanics	17,142,351	15,684,764	3.1	2.8
The Faculty of Romance and Germanic Philology	42,792,815	44,127,336	7.8	7.9
The Faculty of Pharmaceutics	39,788,757	38,904,413	7.3	7
The Faculty of Physics	1,003,789	3,236,670	0.2	0.6
The Faculty of Philology	10,479,610	10,046,288	1.9	1.8
The Faculty of Philosophy and Psychology	16,614,054	13,171,480	3	2.4
The Faculty of Chemistry	3,004,050	2,718,800	0.5	0.5
The Faculty of Economics	141,374,507	154,858,698	25.8	27.7
The Faculty of Law	143,908,575	150,191,868	26.3	26.9
The Institute of International Relations	4,514,900	6,149,150	0.8	1.1
The Institute of Extramural Economic Education	8,398,440	3,857,890	1.5	0.7
<b>Total</b>	<b>546,973,985</b>	<b>558,468,865</b>	<b>100</b>	<b>100</b>

Figure 7.3

## INCOME STRUCTURE BY FACULTY IN THE 2014/2015 ACADEMIC YEAR



## 7.6. INFORMATION ON RENTAL TRANSACTIONS

In 2015, there was an inventory drawn up of leasable areas, and an analysis of financial results was carried out. As of the beginning of the year, there were a total of 11 federal property rental contracts, 24 fee-based service contracts, and 14 public service contracts.

План работы на 2015 год предусматривал следующие мероприятия.

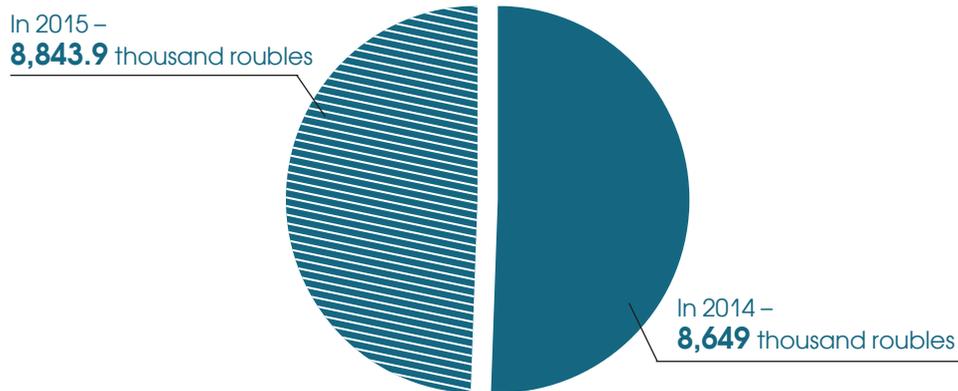
- Improving the tenants' financial discipline of tenants and reducing the arrears in payments.
- Monthly proceeds control by means of payment reconciliation with the tenants.
- Monitoring of compliance with the terms of the contracts.
- Prompt cooperation with the Ministry of Education and Science of the Russian Federation and the Voronezh Regional Office of the Federal Agency for State Property Management to obtain the approval of deals for the leasing of the training facility premises not used in the academic process.

Based on the results of the Rental Department's activities in 2015, the following results were achieved:

1. Total income from the leasable premises in 2015 amounted to **11,247.2 thousand roubles**, including:
  - Income from federal property rental contracts – **2,403.2 thousand roubles**.
  - Income from fee-based service contracts and public service contracts – **8,844 thousand roubles**. (Fig. 7.4).

Figure 7.4

## INCOME FROM FEE-BASED SERVICE CONTRACTS AND PUBLIC SERVICE CONTRACTS



2. In 2015, documents were drafted and completed for obtaining approval from the Ministry of Education and Science of the Russian Federation for the leasing of the following premises:
  - Non-residential premises in the basement, located at 42 Ulitsa Kholzunova (University dormitory No.6); purpose of lease – laundry room.
  - Non-residential premises on the 4th floor, located at 10 Ploshchad Lenina (University building No.2); purpose of lease – office.
  - Non-residential premises in the basement, located at 50 Ulitsa Kholzunova (University dormitory No.5); purpose of lease – computer centre.
  - Non-residential premises on the 1st floor, located at 10 Ulitsa Fridrikha Engelsa (University dormitory No.3); purpose of lease – office.
  - Non-residential premises on the 1st floor, located at 10 Ulitsa Fridrikha Engelsa (University dormitory No.3); purpose of lease – driving school.
  - Non-residential premises in the basement, located at 42-v Ulitsa Kholzunova (University building No.5a); purpose of lease – catering company.
3. Due to an increase in public service rates and a high inflation rate, the University re-executed 14 public service contracts, and 24 fee-based service contracts.
4. Compared to 2014, the 2015 income from the leasable premises decreased by 1,222.9 thousand roubles. This is due to the following reasons:
  - A decrease in tenants' the financial solvency of tenants resulting from the national economic crisis.
  - A decrease in the number of federal property rental contracts and fee-based service contracts, resulting from the long and complicated process of obtaining approval from the Ministry of Education and Science of the Russian Federation for the lend-lease of the training facility premises not used in the academic process.

However, 2015 saw an increase in income totalling 194.9 thousand roubles (or 2.3%) from fee-based service contracts, as well as public services to third parties.



## 7.7. VSU FINANCIAL ACTIVITIES ANALYSIS

VSU's financial standing may be characterized by the use of funds obtained from various financial sources, as well as the use of assets.

In accordance with the balance sheet statistics, the aggregate structure and change in VSU's assets and the sources of their formation are shown in Tables 7.4 and 7.5.

Table 7.4

### CHANGE IN VSU ASSETS IN 2015

Asset items	At the beginning of 2015	At the end of 2015	Absolute variation	Rate of increase, %
<b>1. Non-financial assets, thousand roubles</b>				
1. Property, plant and equipment (residual value)	1,147,539.3	1,363,733	+216,193.7	118.8
2. Intangible assets (residual value)	4	4	–	100
3. Non-derivative assets	2,876,106.1	2,902,966.3	+26,860.2	100.9
4. Material inventories	21,404.7	22,865.9	+1461.2	106.8
5. Investments in the non-financial assets	85,790.7	204,817.5	+119,026.8	238.7 (2.4 times)
<b>Change in VSU assets in 2015</b>	<b>4,130,844.8</b>	<b>4,494,386.7</b>	<b>+363,541.9</b>	<b>108.8</b>
<b>II. Financial assets, thousand roubles</b>				
7. Cash and cash equivalents	86,999.1	23,588.1	-63,411	27.1
8. Settlement of revenues	39,569.1	18,259.2	-21,309.9	46.1
9. Settlements of advance paid out	22,624.7	7708.8	-14,915.9	34.1
10. Settlements with accountable persons	388.4	220	-168.4	56.6
11. Settlements of property damaged	–	–	–	–
12. Settlements of VAT	283.8	553.5	+269.7	195
13. Settlement of payments into the budget	327.1	46.9	-280.2	14.3
<b>14. Total financial assets</b>	<b>150,192.2</b>	<b>50,376.5</b>	<b>-99,815.7</b>	<b>33.5</b>
<b>15. Total VSU assets</b>	<b>4,281,037</b>	<b>4,544,763.2</b>	<b>+263,726.2</b>	<b>106.2</b>



Table 7.5

CHANGE IN THE SOURCES OF VSU ASSETS IN 2015

Asset items	At the beginning of 2015	At the end of 2015	Absolute variation	Growth ratio, %
<b>I. Liabilities to the founder, thousand roubles</b>				
1. Settlements with founders (residual value of most valuable assets)	3,864,966.5	4,076,881.4	+211,914.9	105.5
<b>II. Liabilities to the creditors, thousand roubles</b>				
2. Accounts payable to bond creditors	–	15,500	+15,500	–
3. Settlement of accepted obligations	26,278.7	19,628.9	-6649.8	74.7
4. Settlement of payments into the budget	27,596.4	47,026.5	+19,430.1	170.4
5. Settlement of revenues	327,921.9	270,611.4	-57,310.5	82.5
6. Settlements with accountable persons	–	9.4	+9.4	–
7. Other settlements with creditors	7496.9	9746.1	+2249.3	130
<b>8. Total liabilities to the creditors</b>	<b>389,293.8</b>	<b>362,522.3</b>	<b>-26,771.5</b>	<b>86.2</b>
<b>III. Financial results (internal funds), thousand roubles</b>				
9. Financial results of the previous reporting periods	(417,191.6)	(458,535.5)	+(41,343.9)	109.9
10. Financial results from accrual of depreciation of most valuable assets	443,968.3	500,752.9	+56,784.6	112.8
11. Prepaid expenses	–	(1895.3)	+(1895.3)	–
12. Provisions for future liabilities	–	65,037.4	+65,037.4	–
<b>13. Total financial results of VSU</b>	<b>26,776.7</b>	<b>105,359.5</b>	<b>+78,582.8</b>	<b>393.5 (3.9 times)</b>
<b>14. Total sources of the formation of VSU assets</b>	<b>4,281,037</b>	<b>4,544,763.2</b>	<b>+263,726.2</b>	<b>106.2</b>



In 2015, the aggregate value of assets, including the ones assigned by the founder based on operational management, increased by 263,726.2 thousand roubles (6.2%), and by the end of the reporting period amounted to 4,544,763.2 thousand roubles. The positive dynamics in VSU assets is due to a significant increase (of 216,193.7 thousand roubles, or by 2.4 times) in fixed assets, and a growth in investments in non-financial assets (of 119,026.8 thousand roubles, or by 2.4 times). This is in particular due to the commissioning of a new dormitory on the University campus in the Northern District of Voronezh, the ownership for which was registered in 2015, as well as the construction of the swimming pool. At the same time, there was a decrease of 99,815.7 thousand roubles, or 67.5%, in VSU's financial assets (including monetary funds and accounts receivable).

In 2015, there was an increase of 263,726.2 thousand roubles (6.2%) in VSU assets. This was largely due to an increase in the liabilities to the founder regarding the property assigned to the University based on operational management (land, real estate and most valuable assets). The increase resulted from VSU's acceptance of the transfer of ownership of land. This land was obtained through the acquisition of the branch of All-Russian Distance Institute of Finance and Economics and establishing the Institute of Extramural Economic Education on its premises, as well as the addition of a new dormitory on the University campus in the Northern District of Voronezh into the books, as an article of fixed assets (See Table 7.5).

It must be taken into account that the economic substance of the accounts payable to the founder for the property transferred into operational management of VSU implies: The liabilities which are fully secured by this property, are long-term and do not require settlement using monetary funds or funds expected from the debtors. They may be assumed equivalent to the founder's contribution to the authorized fund (capital) like in the case of for-profit organizations. Consequently, the liabilities to the founder should be regarded as equivalent to the internal funds.

There has been a decrease in the liabilities to the creditors of 26,771.5 thousand roubles, or 13.8%, resulting from a decrease in accounts payable for the settlement of revenues and accepted obligations. This is due to a decrease in the amounts owed by the students for the tuition and the completion of the swimming pool construction (such remaining balance is shown in the balance sheet as accounts payable for the settlement of accepted obligations).

Furthermore, in 2015, there was an increase of 78,582.8 thousand roubles, or by 3.9 times, in the University's internal funds, which was due to a 12.8% growth in the financial result from accrual of depreciation of most valuable assets. At the same time, there was an increase of 41,343.9 thousand roubles, or 9.9%, in the loss from operating activities of the previous reporting periods.



As of the end of 2015, the largest percentage in VSU’s asset structure (Table 7.6) were the non-produced assets (land) (63.9%) and property, plant, and equipment (30%). A significant increase in the non-financial assets in the reporting year led to a decrease in financial assets from 3.5 to 1.1%.

Table 7.6

**VSU ASSET STRUCTURE IN 2015  
(ACCORDING TO THE DATA FROM THE ANALYTICAL DATA SHEET)**

Indicator	Percentage, %		Change (+, -)
	At the beginning of 2015	At the end of 2015	
<b>1. Non-financial assets – total</b>	<b>96.5</b>	<b>98.9</b>	<b>+2.4</b>
Including: Property, plant and equipment (residual value)	26.8	30	+3.2
Non-produced assets	67.2	63.9	-3.3
Material assets	0.5	0.5	-
Investments in non-financial assets (capital investments)	2	4.5	+2.5
<b>2. Financial assets – total</b>	<b>3.5</b>	<b>1.1</b>	<b>-2.4</b>
Including: Cash and cash equivalents	2	0.5	-1.5
Settlements with debtors	1.5	0.6	-0.9
<b>3. Total assets</b>	<b>100</b>	<b>100</b>	<b>-</b>



In the structure of the formation of VSU assets (Table 7.7), the liabilities to the founder regarding the land, property, plant and equipment assigned to the University based on operational management account for 89.7%. Accounts payable to the creditors decreased from 9.1 to 8%. At the same time, the share of equity capital increased by 1.7%.

Table 7.7

#### CHANGE IN SOURCES OF THE FORMATION OF VSU ASSETS IN 2015 (ACCORDING TO THE DATA FROM THE ANALYTICAL DATA SHEET)

Indicator	Percentage, %		Change (+, -)
	At the beginning of 2015	At the end of 2015	
<b>1. Liabilities to the founder</b>	<b>90.3</b>	<b>89.7</b>	<b>-0.6</b>
<b>2. Liabilities to the creditors – total</b>	<b>9.1</b>	<b>8.0</b>	<b>-1.1</b>
Including:			
Settlement of revenues	7.7	6.0	-1.7
Settlement of accepted obligations	0.6	0.4	-0.2
Settlement of payments into the budget	0.6	1	+0.4
Other accounts payable	0.2	0.6	+0.4
<b>3. Financial results (internal funds) – total</b>	<b>0.6</b>	<b>2.3</b>	<b>+1.7</b>
Including:			
Financial results of the previous reporting periods	(9.7)	(10.1)	+(0.4)
Financial results from accrual of depreciation of most valuable assets	10.3	11	+0.6
Provisions for future liabilities	–	1.4	+1.4
<b>4. Total sources of asset formation</b>	<b>100</b>	<b>100</b>	<b>–</b>



A cut in state funding of the University's activities resulted in an increase of the share of equity capital used for purchasing and building new property, plant, and equipment (Tables 7.8 and 7.9). In 2015, 23.8% of additions to property, plant and equipment and 26% of expenditure for capital construction and other fixed asset investment was financed by VSU. The share of governmental order subsidies allocated for PP&E construction decreased from 79.1% to 76.2%, and the share for capital construction and other fixed asset investment decreased from 79.3% to 50.3%. Additionally, a capital investment subsidy of 83,500 thousand roubles was allocated for the construction of the swimming pool, which accounted for 16.3% of all the financial sources. An increase in capital expenditures from VSU's own funds was one of the main reasons for the fall in the University's funds and the deterioration of its liquidity.

Table 7.8

### STRUCTURE AND DYNAMICS OF THE ADDITIONS TO PROPERTY, PLANT AND EQUIPMENT BY THE FINANCIAL SOURCES

Financial source	2014		2015		Change (+, -)	
	thousand roubles	Percentage, %	thousand roubles		thousand roubles	
<b>Property, plant and equipment purchased – total</b>	<b>421,790.1</b>	<b>100</b>	<b>339,001.7</b>	<b>100</b>	<b>-82,788.4</b>	<b>-</b>
Including: VSU's equity capital	88,037.7	20.9	80,782.0	23.8	-7255.7	+2.9
Government order subsidies	333,752.4	79.1	258,219.7	76.2	-75,532.7	-2.9

Table 7.9

### STRUCTURE AND DYNAMICS OF DEVELOPMENT EXPENDITURES AND OTHER INVESTMENTS INTO PROPERTY, PLANT AND EQUIPMENT, BY THE FINANCIAL SOURCES

Financial source	2014		2015		Change (+, -)	
	thousand roubles	Percentage, %	thousand roubles	Percentage, %	thousand roubles	Percentage, %
<b>Development expenditures and other investments into property, plant and equipment – total</b>	<b>422,077.0</b>	<b>100</b>	<b>512,799.4</b>	<b>100</b>	<b>+90,722.4</b>	<b>-</b>
Including: Equity capital	61,724.9	14.6	133,229.6	26.0	+71,504.7	+11.4
Government order subsidies	334,827.8	79.3	258,065.1	50.3	-76,762.7	-29
Other subsidies	25,524.3	6.1	38,004.7	7.4	+12,480.4	+1.3
Capital expenditure subsidies	-	-	83,500	16.3	+83,500	+16.3



Major capital investments into property, plant and equipment have had a positive impact on the depreciation of these assets (as of the end of the year, compared to the beginning of the year, the coefficient of depreciation decreased by 1.8 points and reached 44.3%). As for VSU's real estate, this figure dropped from 20% to 18.4% due to the commissioning of a new dormitory. The book value of fixed assets increased by 318,524.8 thousand roubles, or 15% (Table 7.10).

Table 7.10

## THE ANALYSIS OF VSU'S FIXED ASSET DEPRECIATION

Indicator	As of the beginning of 2015	As of the end of 2015	Absolute change (+, -)	Rate of
1. Book value of fixed assets, thousand roubles	2,129,030	2,447,554.8	+318,524.8	115.0
Including:				
Real estate of the establishment	1,018,316.9	1,209,222.5	+190,905.6	118.7
Most valuable movable assets of the establishment	461,982	543,093.1	+81,111.1	117.6
2. Depreciation of fixed assets, thousand roubles	981,490.7	1,083,821.8	+102,331.1	110.4
Including:				
Real estate of the establishment	203,366.5	222,563.4	+19,196.9	109.4
Most valuable movable assets	247,379.2	292,504.3	+45,125.1	118.2
3. Net book value of fixed assets, thousand roubles	1,147,539.3	1,363,733	+216,193.7	118.8
Including:				
Real estate of the establishment	814,950.4	986,659.1	+171,708.7	121.1
Most valuable movable assets of the establishment	214,602.8	250,588.8	+35,986	116.8
4. Coefficient of depreciation, %	46.1	44.3	-1.8	×
Including:				
Real estate of the establishment	20	18.4	-1.6	×
Most valuable movable assets	53.5	53.9	+0.4	×



Due to the decrease in accounts payable and an increase in the University's internal funds, 2015 saw an improvement in its financial sustainability. The share of the financial result in the total amount of internal funds and liabilities to the creditors (equity to total assets ratio) increased from 6% to 23%. At the same time, there was a decrease in the rate of the University's dependence on creditor funds.

Table 7.11

#### ANALYSIS OF VSU'S FINANCIAL STABILITY

Indicator	At the beginning of 2015	At the beginning of 2016	Absolute change (+, -)
<b>I. Initial values for analysis, thousand roubles</b>			
1. Liabilities to the creditors	389,293.8	362,522.3	-26,774.5
2. Financial results (equity)	26,776.7	105,359.5	+78,582.8
3. Total financing of the University's activities (not including the liabilities to the founder)	416,070.5	467,881.8	+51,811.3
<b>II. Financial stability index</b>			
4. Equity to total assets ratio (the share of equity capital (the financial results) in the total amount of the sources of financing for the University's activities)	0.06	0.23	+0.17
5. Dependency ratio (the share of obligations in the total amount of the sources of financing for the University's activities)	0.94	0.77	-0.17



Due to the growth rate of the University's total assets outstripping the rate of growth of the income (Table 7.12), in 2015 there was a deceleration in asset turnover (not including non-produced assets – land) by 28 days. Considering the fact that the largest percentage of VSU's properties are land and property, plant and equipment, which are long-term assets, the level of the asset turnover remains at an acceptable level (232 days, which is less than a year, and 672 if land is taken into consideration). The turnover period for the operating assets, as well as the period of settlements with debtors, increased by 3 days.

Table 7.12

## VSU ASSET TURNOVER ANALYSIS

Indicator	2014	2015	Absolute change (+, -)	Rate of increase, %
<b>I. Initial values for analysis, thousand roubles</b>				
1. Average annual cash balance	51,598.7	55,293.6	+3694.9	107.2
2. Average annual amount of funds in settlements with debtors (accounts receivable)	21,952.3	44,990.8	+23,038.5	204.9 (2.0 раза)
3. Average annual amount of material assets	20,469.2	22,135.3	+1666.1	108.1
4. Total average annual amount of operating assets	94,020.2	122,419.7	+28,399.5	130.2
5. Average annual amount of total assets	2,665,855.4	4,412,900.1	+1,747,044.7	165.5
6. Average annual amount of total assets without non-produced assets	1,227,802.3	1,523,363.9	+295,561.6	124.1
7. Total income of the university	2,170,045.0	2,364,700.8	+194,655.8	109
<b>II. Asset turnover ratio, days</b>				
8. Turnover period for total assets, days	442	672	+230	152
9. Turnover period for total assets without non-produced assets, days	204	232	+28	113.7
10. Turnover period for operating assets, days	16	19	+3	118.8
11. Turnover period in settlements with debtors (accounts receivable), days	4	7	+3	175
12. Turnover period for material assets, days	4	4	-	100



The main reasons for the weakening of the financial standing of the University in 2015 were as follows:

- An increase in the salaries of the academic staff and the educational support personnel, and, as a consequence, an increase of **12,370 thousand roubles**, or 1.3%, in the total payroll budget.
- Cost incurrance of **208.9 million roubles** due to the construction of the swimming pool, including **83.5 million roubles** of budget investments: **99.7 million roubles** from the regional budget (grant), and **25.7 million roubles** of VSU's own funds.
- A decrease of **47,869.8 thousand roubles** in governmental order subsidies. The end of the University's Strategic Development Plan.
- A decrease of **30,838.7 thousand roubles** in targeted subsidies (for scholarships, major repairs, and purchasing property, plant and equipment over 3,000 roubles) resulting from a decrease in research funding.
- A decrease of **109,200 thousand roubles** in budget investments due to the commissioning of the dormitory.
- Uneven receipt of the subsidy for the financial support of the execution of the government order for rendering state services from the federal budget.
- Disproportionate distribution of the incoming budgetary funds and the University's expenditure throughout the year.

An important factor that is to ensure the university's financial solvency was the establishment of the endowment fund in 2013. As of 1 January 2015, the amount of the assets placed under the management of ZAO Gazprombank Asset Management was 13,378 thousand roubles. In the reporting year, it increased by 3870 thousand roubles (28.9%), and reached 17,248 thousand roubles. The number of contributors reached 135 organizations and individuals (Table 7.13).

Table 7.13

### THE ANALYSIS OF THE RATE OF FORMATION AND CAPITAL PRODUCTIVITY OF THE VSU ENDOWMENT FUND (AS OF 01 JANUARY 2016)

Indicator	As of 1 January 2015	As of 1 January 2016	Absolute change (+, -)	Rate of increase, %
1. VSU endowment assets, thousand roubles	13,378	17,248	+3870	128.9
2. The number of contributors Number of people / companies	122	135	+13	110.7
3. Age of the endowment (as of 1 January of the following year), months	21	33	+12	×
4. Net revenue from the discretionary management of the assets of the Endowment Fund, thousand roubles	400	2734	+2334	683.5 (6.8 times)
5. The rate of capital formation, thousand roubles per month (Art. 1 : Art. 3)	637.0	522.7	-114.3	82.1
6. Capital productivity, thousand roubles per person (Art. 1 : Art. 2)	109.7	127.8	+18.1	116.5
7. Return on the capital of the Endowment Fund, %	3	15.9	+12.9	×

Because the bulk of the contributions were made during the first year of the existence of the Endowment Fund, in 2015 there was a reduction in the rate of endowment growth. As a result of the enhanced effectiveness of the Endowment Fund management, the reporting year saw an increase by 6.8 times in net revenue, which reached 2,734 thousand roubles. This, in turn, led to an increase in the return on the endowment from 3% to 15.9%. At the same time, the capital productivity increased by 16.5%.

## 7.8. THE DYNAMICS OF THE STAFF REWARD SYSTEM IN 2014–2015

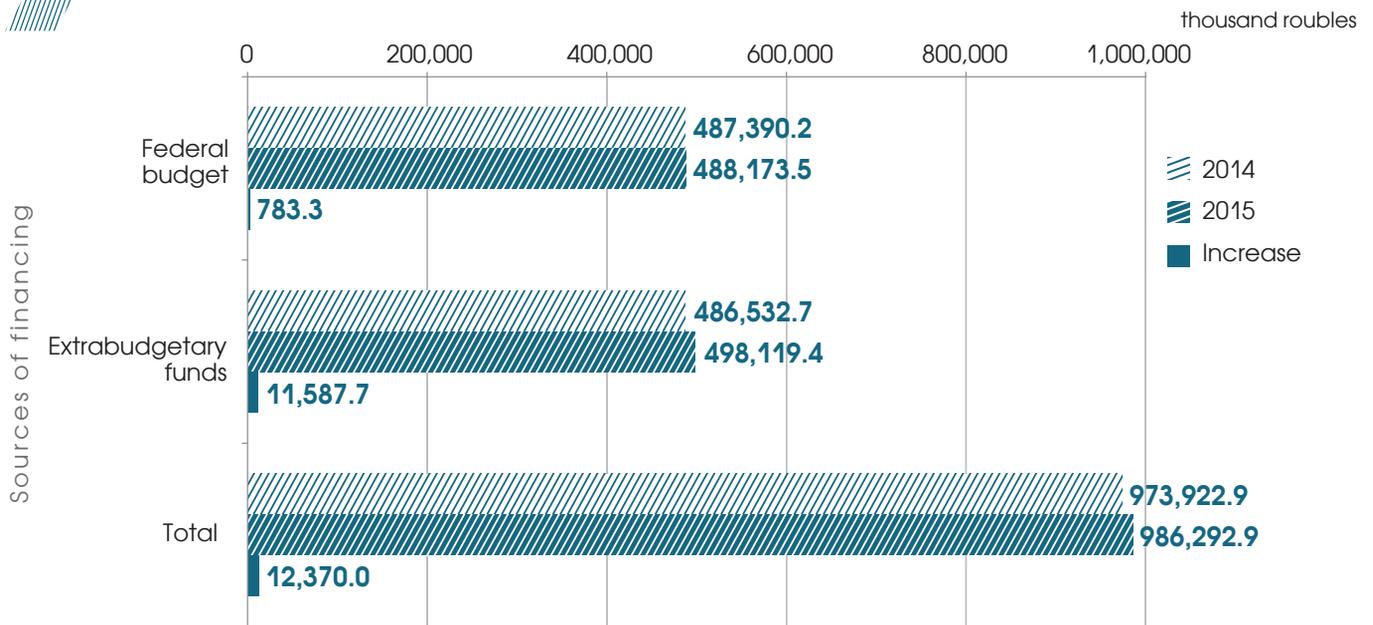
The payroll budget of the university (not including the branches) amounted to:

- In 2014 – **973,922.9 thousand roubles**, including:
  - From subsidies – **487,390.2 thousand roubles**.
  - From extra-budgetary funds **486,532.7 thousand roubles**.
- In 2015 – **986,292.9 thousand roubles** (a growth of 1.3% compared to 2014), including:
  - From subsidies – **488,173.5 thousand roubles** (a growth of 0.2% compared to 2014).;
  - From extra-budgetary funds – **498,119.4 thousand roubles** (a growth of 2.4% compared to 2014) (Figures 7.5, 7.6).



Figure 7.5

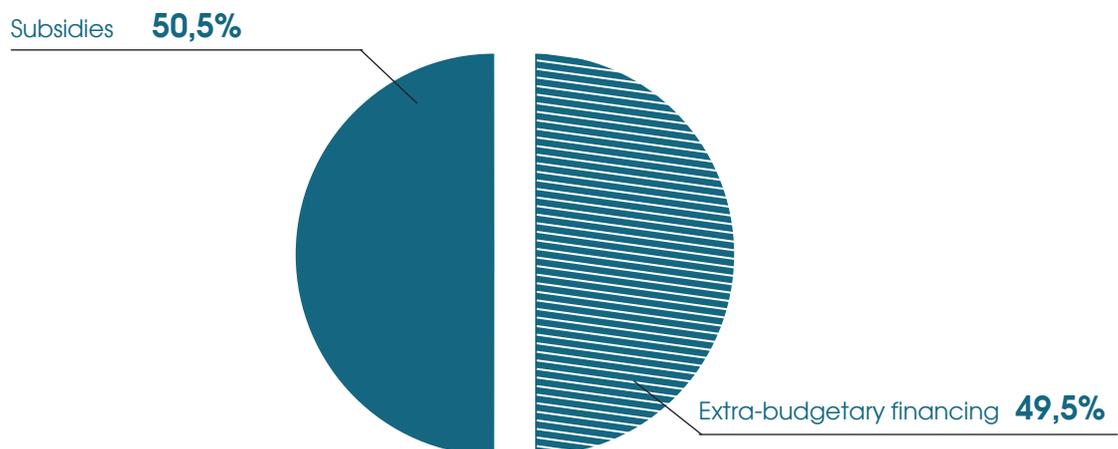
### COMPARATIVE ANALYSIS OF THE PAYROLL BUDGET IN 2014 AND 2015



In 2015, there was a growth of 12,370 thousand roubles (101.3%) in the payroll budget compared to 2014, including 11,586.7 thousand roubles of extrabudgetary funds.

Figure 7.6

### PAYROLL BUDGET STRUCTURE BY THE SOURCE OF FINANCING IN 2015





In 2015, the average salary of University staff members (including extra-budgetary fund payments) amounted to 22,605 roubles. The average salary of academic staff members was 33,680 roubles; of the administrative staff – 30,100 roubles; of other employees – 11,400 roubles.

Based on the performance in 2015, the staff of the University received bonuses amounting to 20,453.6 thousand roubles, including:

- **10,275.7 thousand roubles** to academic staff members.
- **10,177.9 thousand roubles** to other employees.

The bonuses from extra-budgetary funds amounted to 10,015.6 thousand roubles, including:

- **4,136 thousand roubles** to academic staff members.
- **5,879.6 thousand roubles** to other employees.

The average number of the University's academic and teaching staff was 1,422 people; the number of other employees was 2,207 people.

#### **MEASURES TAKEN TO RAISE THE SALARIES AND SOCIAL WELFARE OF THE UNIVERSITY STAFF**

Starting from 1 September 2015, in accordance with the social policy implemented by the University, and based on the Order of the Rector No. 1-2293 dated 27 August 2015, the monthly bonus of 30% was renewed for the regular educational support personnel with VSU as their primary place of employment (including the Faculty of Military Education and the International Education Institute).

Starting from 1 September 2015, based on the Order of the Rector No. 1-2290 dated 27 August 2015, the monthly bonus for the full-time educational support personnel of the Regional Scientific Library increased from 15% to 20% of the basic salary.

Starting from 1 September 2015, based on the Order of the Rector No. 1-2292 dated 27 August 2015, a monthly bonus for the full-time educational support personnel of the University increased from 15% to 20% of the basic salary.

Starting from 1 September 2015, based on the Order of the Rector No. 1-2291 dated 27 August 2015, a 20% monthly bonus was introduced for the full-time educational support personnel of the University's Botanical Garden.

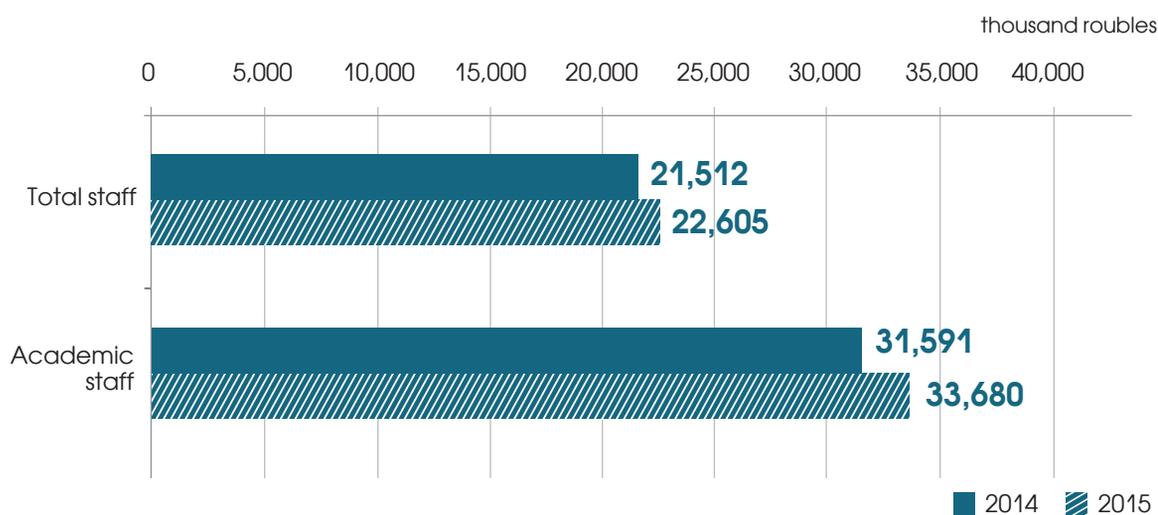


## 7.9. THE ANALYSIS OF THE AVERAGE SALARY OF THE ACADEMIC STAFF MEMBERS AT VSU COMPARED TO THE AVERAGE SALARY IN THE VORONEZH REGION

In 2015, the average salary of university staff members (including extra-budgetary fund payments) amounted to 22,605 roubles, whereas the average salary of academic staff members was 33,680 roubles, which is 133.2% of the average salary in the region and exceeds the target value of the 2015 roadmap, which equalled 130% (Fig. 7.7).

Figure 7.7

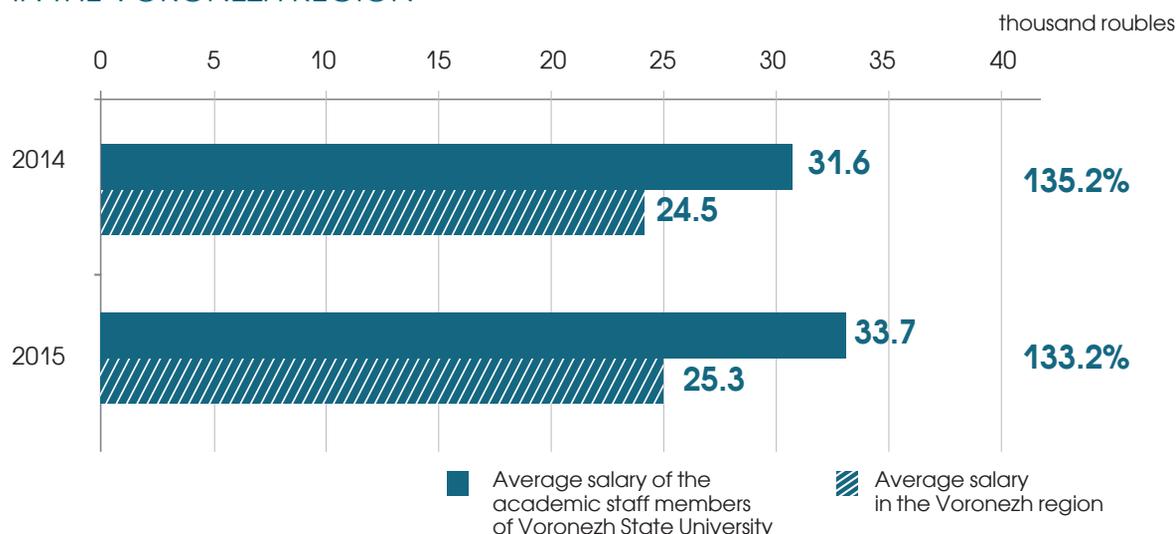
### THE AVERAGE SALARY IN 2014–2015



The increase in the average salary of all staff in 2015 was 105.1%, while for academic and teaching staff it amounted to 106.6% (Fig. 7.9).

Figure 7.8

### AVERAGE SALARY OF THE ACADEMIC STAFF MEMBERS OF VORONEZH STATE UNIVERSITY AND THE AVERAGE SALARY IN THE VORONEZH REGION





## 7.10. KEY FINANCIAL AND ECONOMIC ACHIEVEMENTS OF VSU IN 2015

Following the results of VSU's financial and operational activities in 2015, all targets have been met, in particular:

- The funds received by the VSU budget totalled 2,405,547.1 thousand roubles (100%).
- The ratio of the average salary of VSU teaching staff to the average salary in the Voronezh region was 133.2%.
- The 30% monthly bonus for the University's educational support personnel was renewed.
- The monthly bonus for the educational support personnel of the Regional Scientific Library increased from 15% to 20% of the basic salary.
- The monthly bonus for the University's educational support personnel increased from 15% to 20% of the basic salary.
- A bonus of 20% of the basic salary was introduced for educational support personnel of the University's Botanical Garden.



## **7.11. VSU OBJECTIVES IN THE AREA OF INTERNATIONAL COOPERATION IN 2015**

In 2015, VSU's international activities were focused on the following tasks:

- Developing and implementing double degree programmes with international partner universities, including distance-learning programmes.
- Ensuring the participation in contests organized by international organizations, foundations, and programmes in science and education (Erasmus+, Horizon 2020) by University employees.
- Training foreign residents.

## **7.12. DEVELOPING COMMUNICATION THROUGH DIRECT CONTRACTS AND AGREEMENTS**

VSU has 156 partnership agreements with the leading universities of Europe, the USA, and Asia, within which it conducts its international projects.

In 2015, Voronezh State University signed 18 treaties and agreements on academic cooperation with the leading universities of the USA, Central Europe and Asia (Table 7.14).

Table 7.14

## LIST OF AGREEMENTS WITH INTERNATIONAL UNIVERSITIES SIGNED IN 2015

No	Country	Programme (project title), Institution	Type of agreement
1	Bulgaria	Partnership agreement between FSFEI HPE VSU and St. Kliment Ohridski University of Sofia	Academic cooperation and staff exchange programmes
2	Columbia	Partnership and educational activities agreement between FSFEI HPE VSU and the Russian office of Procolombia	Academic cooperation
3	The USA	An agreement on the implementation of double-degree Master's programmes in Physics between FSFEI HPE VSU and the University of Texas at Brownsville	Academic cooperation and student exchange programmes
4	The USA	An agreement on the implementation of double-degree Master's programmes in Mathematics between FSFEI HPE VSU and the University of Texas at Brownsville	Academic cooperation and student exchange programmes
5	Spain	Partnership agreement between the Liceus education centre (Madrid, Spain) and FSFEI HPE VSU	Academic cooperation and student exchange programmes
6	France	Partnership agreement between FSFEI HPE VSU and University Lille 1: Sciences and Technologies (France)	Academic cooperation and student exchange programmes
7	Uzbekistan	Partnership agreement between FSFEI HPE VSU and Samarkand State University of Foreign Languages (Uzbekistan)	Academic cooperation and student exchange programmes
8	Tajikistan	Partnership agreement between FSFEI HPE VSU and Tajik State University of Law, Business, and Politics (Khujand, Tajikistan)	Academic cooperation and student exchange programmes
9	Germany	Memorandum of understanding between FSFEI HPE VSU and Leibniz Institute of Photonic Technology	Academic cooperation and student exchange programmes
10	Germany	Memorandum of cooperation between FSFEI HE VSU and the University of Göttingen (Georg-August-Universität Göttingen) for developing a double degree programme in Russian Literature	Academic cooperation and student exchange programmes
11	Armenia	Partnership agreement between FSFEI HE VSU and Yerevan State University (Armenia)	Academic cooperation and student exchange programmes
12	Taiwan	Student exchange agreement between FSFEI HE VSU and Providence University (Taichung)	Academic cooperation and student exchange programmes
13	Finland	Inter-institutional agreement for 2014–20(21) between the program institutes and Erasmus partner countries An agreement between FSFEI HE VSU and Lappeenranta University of Technology	Academic cooperation and student exchange programmes
14	India	Memorandum of understanding between FSFEI HE VSU and Zaheer Science Foundation (Delhi) regarding the programme of developing collaboration in higher education	Academic cooperation
15	India	Memorandum of understanding between FSFEI HE VSU and Birla Institute of Management	Academic cooperation
16	India	An additional agreement for academic cooperation and exchange programmes between FSFEI HE VSU and Birla Institute of Management Technology	Academic cooperation and student exchange programmes
17	China	A partnership agreement between FSFEI HE VSU and Xinjiang University	Academic cooperation and student exchange programmes
18	Italy	A partnership agreement between FSFEI HE VSU and the University of Parma	Academic cooperation and student exchange programmes



In the reporting year, apart from the traditional directions of international collaboration, there were new partnerships with CIS universities (Uzbekistan, Kazakhstan, Tajikistan, and Armenia).

For instance, in 2015, VSU acquired a grant to carry out the COMPLETE project (“Creating Employment Competences and Skills Development Centres”) as part of the European Erasmus+ programme. The project is aimed at establishing Centres for the development of a competency-based approach to education at Kazakh and Russian universities. Among the project’s participants are Karaganda Economic University, Shakarim State University of Semey, and Turar Ryskulov New Economic University. In the future, collaboration with these universities will be further developed, both as part of the project implementation and under collaboration agreements.

Another TEMPUS project “Modernising European Language Teaching Through the Introduction of Online Technologies in the Process of Teacher Training” involves the Faculty of Romance and Germanic Philology in collaboration with Samarkand State University of Foreign Languages (Uzbekistan) and Uzbek State University of World Languages (Uzbekistan).

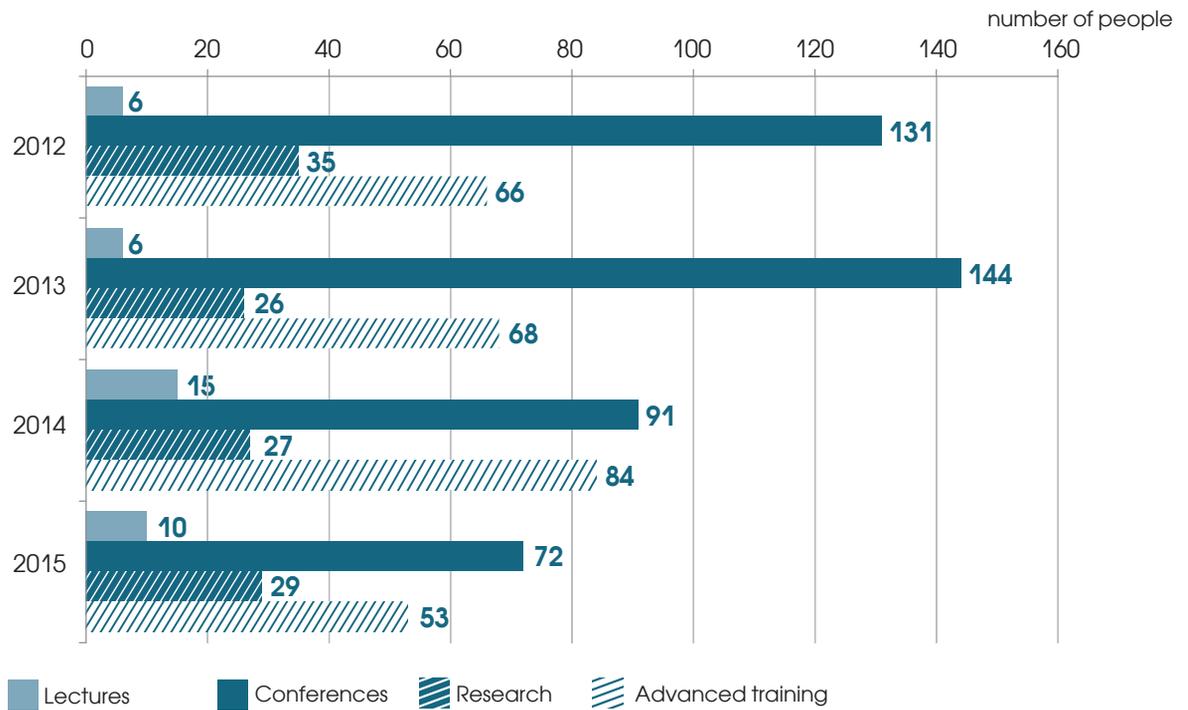
In October 2015, a memorandum of understanding and an additional agreement for academic cooperation and exchange programmes between VSU and Birla Institute of Management Technology (India).

## **ACADEMIC MOBILITY OF VSU STUDENTS AND STAFF**

In 2015, about 200 academic staff members of VSU were sent abroad with the purpose of participating in international scientific conferences, performing research, completing advanced training programmes, and giving guest lectures (Figure 7.9).

Figure 7.9

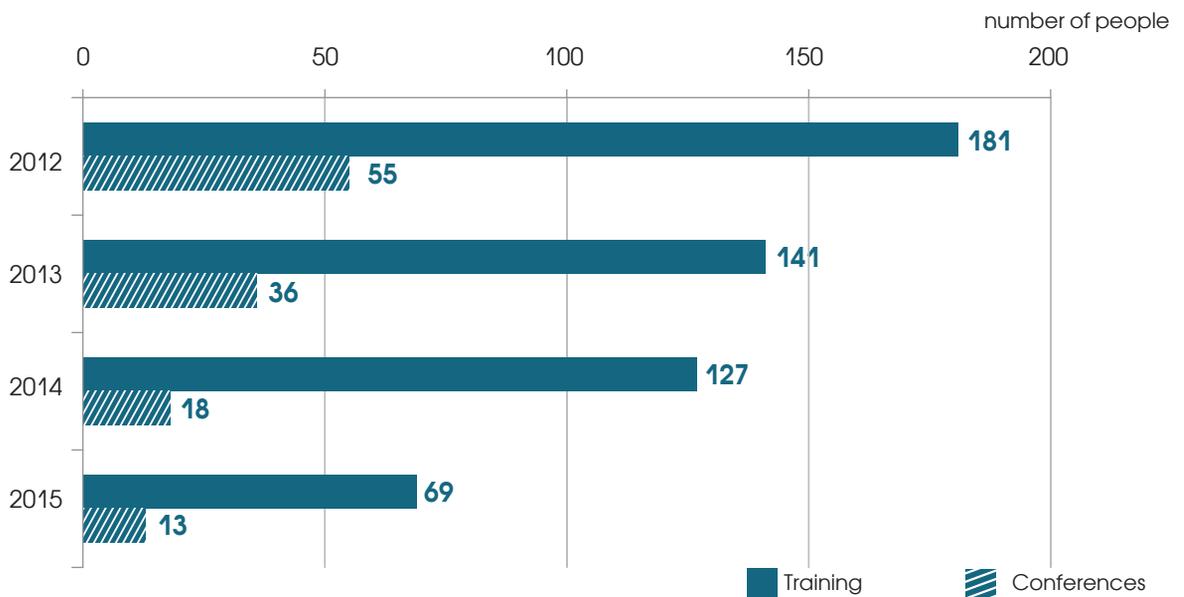
ACADEMIC MOBILITY OF VSU ACADEMIC AND RESEARCH STAFF (BY AIM)



In 2014, 82 undergraduate and postgraduate students went to international universities for various types of courses (one-year, one-semester, language courses, internships, pre-graduation practical training, and introductory practical training) (Figure 7.10).

Figure 7.10

ACADEMIC MOBILITY OF VSU UNDERGRADUATE, POSTGRADUATE, AND MASTER'S DEGREE STUDENTS





### 7.13. INFORMATION ON THE JOINT ACADEMIC (DOUBLE DEGREE) PROGRAMMES IMPLEMENTED AT VSU IN 2015

Currently, the University is running six education programmes in cooperation with its foreign partners. Six new double degree programs are being actively developed (signing an agreement on the implementation of double-degree programmes, adjusting the curricula, selecting the academic and teaching staff).

Table 7.15

#### JOINT EDUCATIONAL PROGRAMMES AT VSU IN 2015–2016

No	Programme	Study option	VSU participating faculty	Partner-university
1	Linguistics. Teaching Italian as a foreign language	Specialist's degree	The Faculty of Romance and Germanic Philology	University for Foreigners of Perugia (Italy)
2	Business in the Emerging Markets	Master's degree course	The Faculty of International Relations	FH Joanneum University of Applied Sciences (Graz, Austria)
3	Tourism Management	Master's degree course	The Faculty of International Relations, the Faculty of Romance and Germanic Philology	The University Paris-Est Marne-la-Vallée (Paris, France)
4	Contrastive philology	Master's degree course	The Faculty of Romance and Germanic Philology	University of Leon (Spain)
5	Business communication in Economics (German)	Master's degree course	The Faculty of Romance and Germanic Philology	The Martin Luther University of Halle-Wittenberg, Germany
6	Russian Literature in the European Context	Master's degree course	The Faculty of Philology	The University of Göttingen (Germany)
7	Commercial network management	Bachelor's degree programme – at VSU, master's degree programme – at Lille 3	The Faculty of International Relations	Lille University of Science and Technology (The Université Lille 1, France)
8	Physics	Master's degree course	The Faculty of Physics	The University of Texas at Brownsville (USA)



A partnership agreement between Voronezh State University and the University of Göttingen (Georg-August-Universität Göttingen) was signed in 2015 for developing a joint master's degree programme in Russian Literature in the European Context. The programme is offered at the Department of Russian Literature of the Faculty of Philology and the Slavic Department of the University of Göttingen. Its graduates receive a VSU master's degree in Philology, as well as an MA degree from the University of Göttingen.

In the reporting year, six master's degree students of the Department of German Philology of the Faculty of Romance and Germanic Philology have completed a program in "Business Communication in the field of Economics: the German language" implemented in collaboration with VSU's long-term strategic partner – Martin Luther University of Halle-Wittenberg, Germany. The program is facilitated by well-known professors of the Department of Speech Studies and Phonetics of Martin Luther University: Ursula Hirschfeld, Baldur Neuber, Ines Bose, as well as Professor of the Department of Economics and Industrial Management of the Faculty of Law and Economics, Christoph Weiser. They visit VSU annually as guest lecturers and consultants for students and staff.

As part of the existing partnership agreement between VSU and University Lille 1: Sciences and Technologies, an agreement was signed in 2015, aimed at implementing a program in Commercial Network Management. The programme is supported by *Oxylane Decathlon Russia*, which provides the Russian participants of the programme with work placement opportunities at Lille, while the French students complete internship programmes at the company's office in Voronezh.

Additionally, in the reporting year, an agreement was signed between VSU and the University of Texas at Brownsville (USA), aimed at the implementation of a joint academic program in Physics, as part of the collaboration agreement that had been signed in June 2014. The graduates of the programme that meet all the relevant requirements receive a master's degree from the University of Texas at Brownsville and a diploma of FSFEI HE VSU. In 2015, a master's degree student of the Department of Optics and Spectroscopy of the Faculty of Physics enrolled in this programme.

## 7.14. VSU'S PARTICIPATION IN THE CONTESTS ORGANIZED BY INTERNATIONAL FOUNDATIONS AND PROGRAMMES

At present, VSU is involved in 19 international projects.

Following the results of a competitive selection of the Erasmus+ programme, VSU received ten projects in 2015:

- Five projects within Programme No.1: Academic Mobility "Projects on Organizing University Students' and Staff's Mobility" (Credit Mobility).
- Two projects within Programme No.2: "Capacity Building in Higher Education" – former Tempus programme.



This time the contest was not easy for Russian universities, as they did not have a chance to coordinate projects and initiate bilateral projects (Russia–EU). For the category, 515 projects were submitted, 140 projects were supported, out of which, only 13 involved Russian universities, among them, 2 projects with the participation of VSU.

- Three projects within Jean Monnet Actions.

In total, 855 projects were submitted. 247 of them were supported, including 45 projects involving Russian universities, 3 of which were VSU projects.

In 2014/15, contracts valued at 240,000 Euro were signed by the University under international projects.

*Among the grants obtained for the implementation of projects and programs, one of particular significance is HARMONY – Developing Approaches to Internationalisation Strategy Harmonising in the area of Higher Education, Science and Innovation in the EU, Russia, Belarus, and Armenia. The project coordinator is the University of Seville (Spain). The project partners are the universities of Great Britain, Germany, Italy, Portugal, Greece, Russia, Armenia, and Belarus.*

The goal of the project is to develop mechanisms of harmonising internationalisation strategies in view of the national interests of the countries (the EU, Russia, Belarus, and Armenia). The project involves a number of tasks aimed at reinforcing Russia's presence among the European academic community.

Considering the fact that the Russian system of higher education is integrating into the European academic community, and participates in the implementation of the Bologna process, the abovementioned project is in line with the priorities set by the Ministry of Education and Science of the Russian Federation. The main goal of the project is to develop VSU's internationalization strategy.

## **THE IMPLEMENTATION OF INTERNATIONAL ACTIVITY PROJECTS IN 2015 (ACCORDING TO THE VSU ROADMAP)**

### **Project 1. DEVELOPING AND IMPLEMENTING JOINT EDUCATIONAL (DOUBLE DEGREE) PROGRAMMES**

In 2015, eight joint educational programmes were implemented, with another six being actively developed.

### **Project 2. THE SYSTEM OF CURATORS FOR VSU FOREIGN STUDENTS**

In 2015, VSU continued its activities aimed at developing the project of the System of Curators for VSU Foreign Students. Over 40 VSU students have become involved in implementing this project. 16 events were organized (8 of them in autumn, and the other 8 in spring).

In addition, two new promising projects were introduced, causing a lot of interest among students: the "Language tandem" (assistance in language learning) and "the City Caravan" (unconventional tours of Voronezh aimed at teaching international students about the city).



### **Project 3. UNIQUE CENTRE CREATED WITHIN THE FRAMEWORK OF THE ERASMUS MUNDUS PROJECT “UNIQUE – UNIVERSITY QUALITY EXCHANGE”**

In 2015, the UNIQUE Centre was introduced into the structure of the VSU International Department. Its primary goal is to provide informational assistance to VSU students and lecturers regarding the issues of international academic mobility and the features of the European system of education.

The main achievements of the Centre in the reporting year:

- A fair about student mobility programmes was organised by the Centre. It was visited by over 100 people.
- A reference guide for international students called “Welcome to VSU” was published in the English language, offering practical information about Voronezh and Voronezh State University.
- A text was prepared as a reference guide intended for Russian students participating in international exchange programs, providing them with practical information about all the stages of exchange programmes, from the selection of the program to dormitories at the partner university.
- In May 2015, experts from FH Joanneum University of Applied Sciences, (Graz, Austria) Claudia Linditsch and Rupert Beinhauer organized a workshop for the student participants of exchange programmes called “Education methodology and ethics in European universities” ..

### **Project 4. THE FASCINATING RUSSIAN LANGUAGE**

A distance-learning programme for Russian as a foreign language has been implemented by the Laboratory for New Educational Technologies of the VSU International Education Institute. The programme consists of two parts:

- A course of on-line classes.
- An electronic course book – a program that can be filled with various content depending on the subject language.

The graduates of the programme pass the final exams and receive a certificate. It is to become a part of the distance learning program “Conducting Business in Russia: the political, cultural, and economic research into the Russian market” implemented by VSU, Universidad Rey Juan Carlos (Spain, Madrid), and the educational centre Liceus (Spain, Madrid).

### **Project 5. JOINT DISTANCE LEARNING PROGRAM “CONDUCTING BUSINESS IN RUSSIA: THE POLITICAL, CULTURAL, AND ECONOMIC RESEARCH INTO THE RUSSIAN MARKET”**

In 2016, VSU is starting the practical implementation of an innovative project aimed at preparing the joint distance learning program “Conducting Business in Russia: the political, cultural, and economic research into the Russian market” for Spanish-speaking students. It is developed by the lecturers of the Department of Regional Studies and International Economies of VSU’s Faculty of International Relations, in collaboration with their colleagues from Universidad Rey Juan Carlos (Spain, Madrid), and the educational centre Liceus (Spain, Madrid).



The goal of the programme “Conducting Business in Russia: the political, cultural, and economic research into the Russian market” is to shape the Spanish-speaking students’ comprehensive vision of the Russian Federation, its population, history and ethnography, economics and politics, science and culture, ecology and geography, law and religion, language and literature, and traditions and values. The programme is in Russian and Spanish. It will largely involve distance learning. The programme graduates receive:

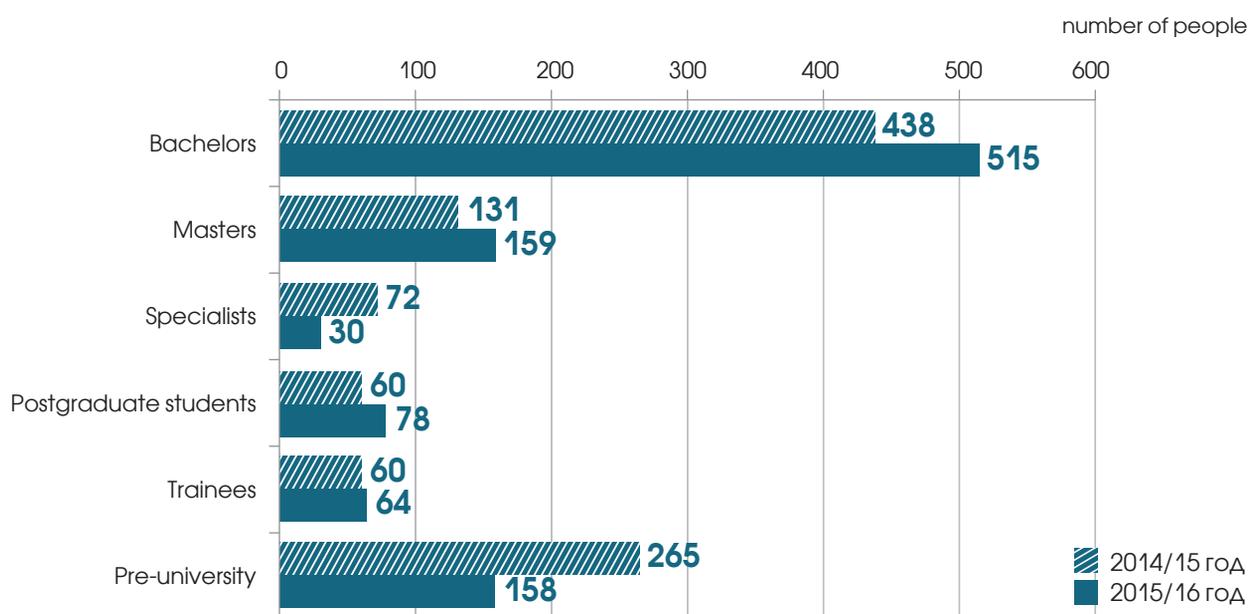
- A standard diploma of professional retraining issued by Voronezh State University.
- A Russian language test state-certificate of the Russian Federation (the certificates are recognised by ALTE – the Association of Language Testers in Europe).
- A standard master’s degree diploma issued by the University of San Carlos.

## 7.15. INFORMATION ON THE INTERNATIONAL STUDENT POPULATION AND DYNAMICS

As of 29 February 2016, the total number of international students studying at VSU in 2015–2015 was 998. In 2015, there were 158 international students admitted to the VSU Institute of International Education on a state-subsidized and fee-baying basis (Figure 7.11).

Figure 7.11

### TOTAL NUMBER OF INTERNATIONAL STUDENTS STUDYING AT VSU IN 2014/15, 2015/16



In 2015/16, the income from the training of international students at VSU amounted to 48,356,250 roubles.



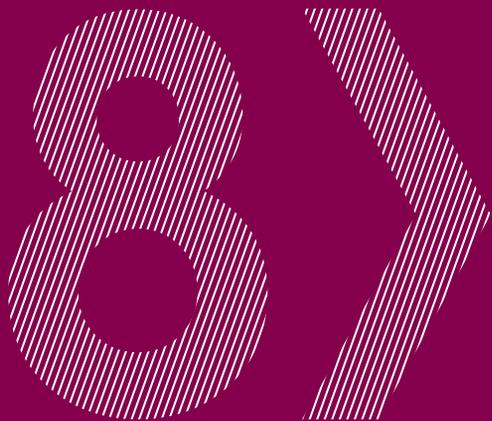
## 7.16. BRIEF SUMMARY OF VSU'S MAIN ACHIEVEMENTS IN 2015

- Eight joint education programmes were implemented in collaboration with partner universities, and another six programmes were developed.
- VSU is involved in the implementation of 19 international projects financed by European foundations and programmes in the area of education and science.
- VSU was invited to take part in ten projects from the Erasmus plus program supported by the European Commission: five projects in Programme direction No.1 in Academic Mobility "Projects on Organizing University Students' and Staff's Mobility" (Credit Mobility), two projects in Programme direction No.2 "Capacity Building in Higher Education" former Tempus programme, and three Jean Monnet Actions projects.
- The total number of international students is about 1000 people.
- New significant projects were started as part of the Buddy program aimed at international students – "The Language tandem" and "The City Caravan".
- A fair about student mobility programmes was organised. It was attended by over 100 students.
- A reference guide for international students called "Welcome to VSU" was published in the English language, offering practical information about Voronezh and Voronezh State University.
- A distance-learning programme of Russian as a foreign language was developed and tested by the laboratory for new educational technologies of the VSU International Education Institute.
- VSU prepared for the practical implementation of a joint distance learning program "Conducting Business in Russia: the political, cultural, and economic research into the Russian market" for Spanish-speaking students in collaboration with their colleagues from Universidad Rey Juan Carlos (Spain, Madrid), and the educational centre Liceus (Spain, Madrid).





# STUDENT AFFAIRS AND SOCIAL DEVELOPMENT





## STUDENT AFFAIRS AND SOCIAL DEVELOPMENT



**O. V. Grishaev,**  
Vice Rector for Student Affairs  
and Social Development

### 8.1. MAIN OBJECTIVES IN THE FIELD OF STUDENT AFFAIRS AND SOCIAL DEVELOPMENT IN 2015

The objectives in the field of student affairs and social development for 2015 were stated in the August reports of the Rector. They include:

- Shaping students' civic stance, patriotic awareness, and political and legal culture.
- Developing and improving the skills and abilities necessary for group management within different forms of student self-governance authorities.
- Organising cooperation between universities and departments in the field of pedagogic, social, and cultural activities.
- Fostering the innovative potential of students to develop society and the students themselves.
- Developing their personality, ensuring its psychological support, and shaping the personal qualities necessary to become professionally efficient.
- Developing and improving students' physical well-being, promoting a healthy lifestyle, and fostering an intolerant attitude to antisocial behaviour.

## 8.2. ORGANISATION OF SUMMER HOLIDAYS

The Department for Student Affairs and Social Development provides summer holidays and recreation for University staff members and students at the “Venevitinovo” sport and fitness complex and the Black Sea coast (the Tuapse Region of the Krasnodar Territory and the Republic of Crimea).

In summer 2015, the number of people who spent their holidays at the “Venevitinovo” recreation facility totalled 797 including 277 VSU employees and members of their families, 25 retired VSU employees, 111 children of VSU employees, 39 outsiders who paid the full price of the holiday package, and 223 students.

300 students went on holiday to the Black Sea coast in the Krasnodar Territory and in the Crimea respectively (see Figures 8.1–8.4).

Figure 8.1

### ORGANISATION OF SUMMER HOLIDAYS FOR STUDENTS

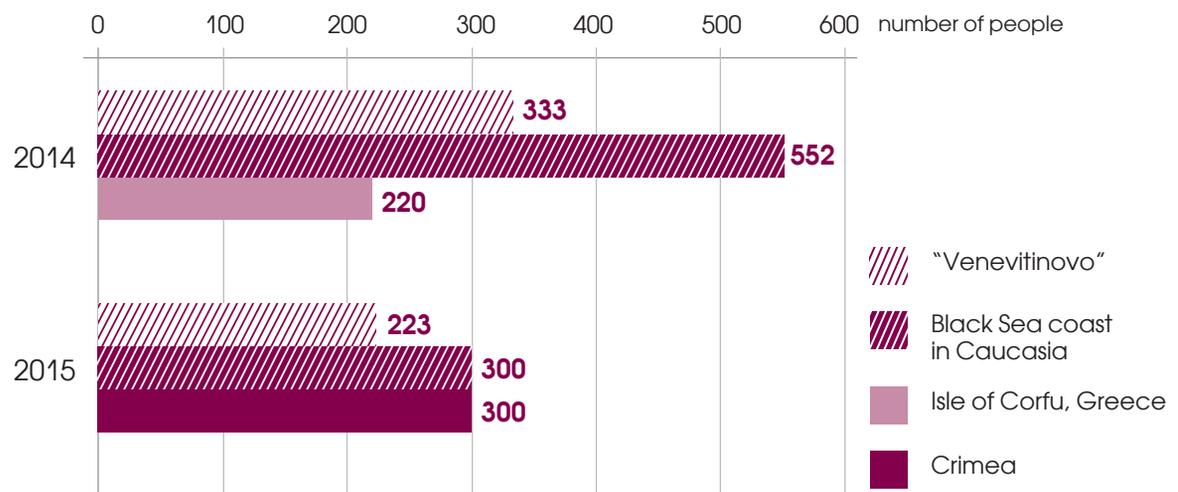


Figure 8.2

### MONEY SPENT ON THE ORGANISATION OF SUMMER HOLIDAYS FOR STUDENTS

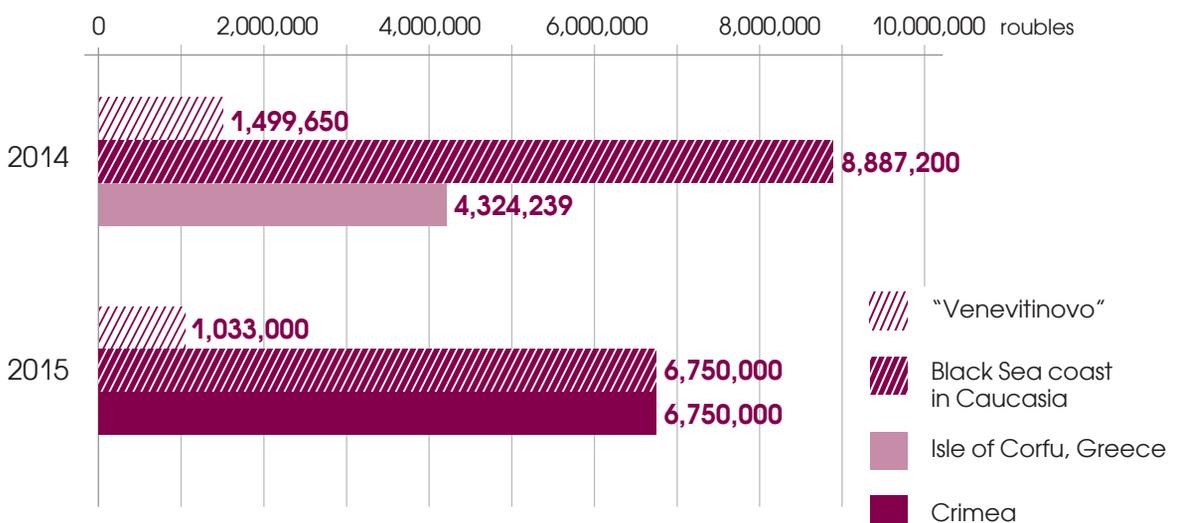




Figure 8.3

ORGANISATION OF SUMMER HOLIDAYS FOR EMPLOYEES AT THE "VENEVITINOVO" SPORT AND FITNESS COMPLEX

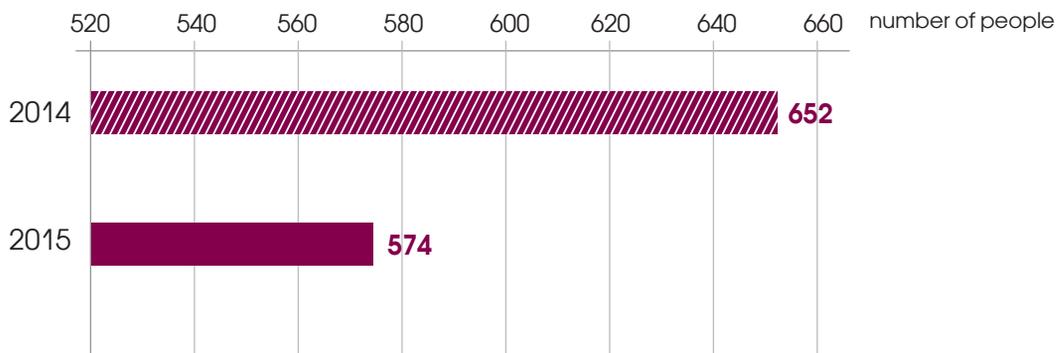
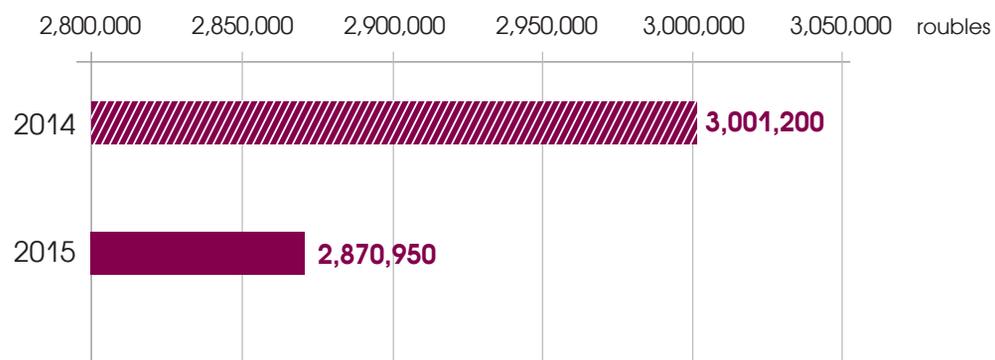


Figure 8.4

MONEY SPENT ON THE ORGANISATION OF SUMMER HOLIDAYS FOR EMPLOYEES AT THE "VENEVITINOVO" SPORT AND FITNESS COMPLEX





Moreover, the University continued to reimburse its employees for expenses incurred for treatment at health resorts. In 2015, the reimbursement was paid to 38 VSU employees and amounted to 1,390,572 roubles (see Figures 8.5, 8.6).

Figure 8.5

NUMBER OF EMPLOYEES WHO RECEIVED THE REIMBURSEMENT FOR EXPENSES INCURRED FOR TREATMENT AT HEALTH RESORTS

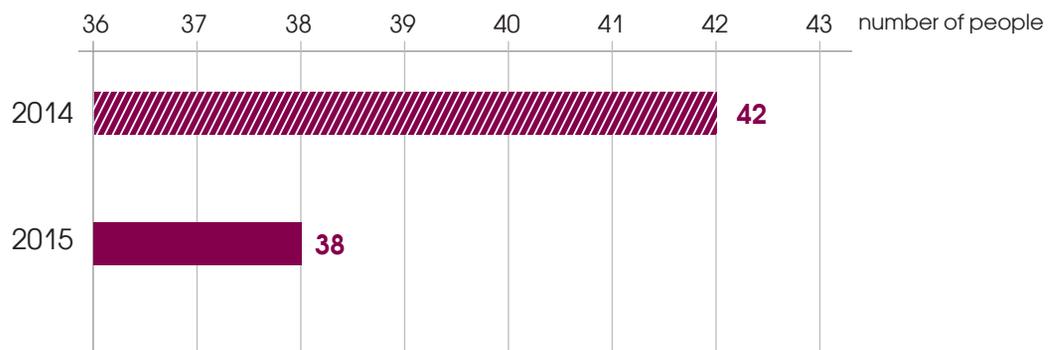
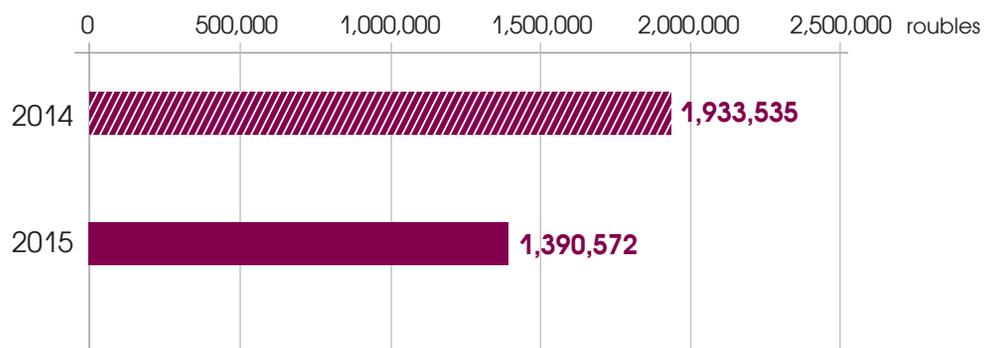


Figure 8.6

MONEY SPENT ON REIMBURSING EMPLOYEES FOR EXPENSES INCURRED FOR TREATMENT AT HEALTH RESORTS





### 8.3. FINANCIAL AID

In 2015, based on the Regulations on Terms and Conditions of Rendering Financial Aid to the Employees of Voronezh State University and the Regulations on Social Support of the Single Retired VSU Employees, 515 current and retired University employees received financial aid that amounted to 3,560,500 roubles (see Figures 8.7, 8.8).

Figure 8.7

#### FINANCIAL AID TO EMPLOYEES

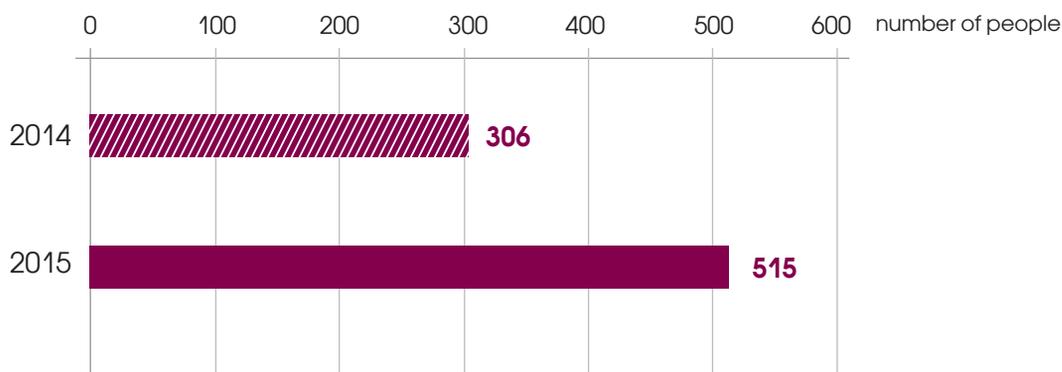
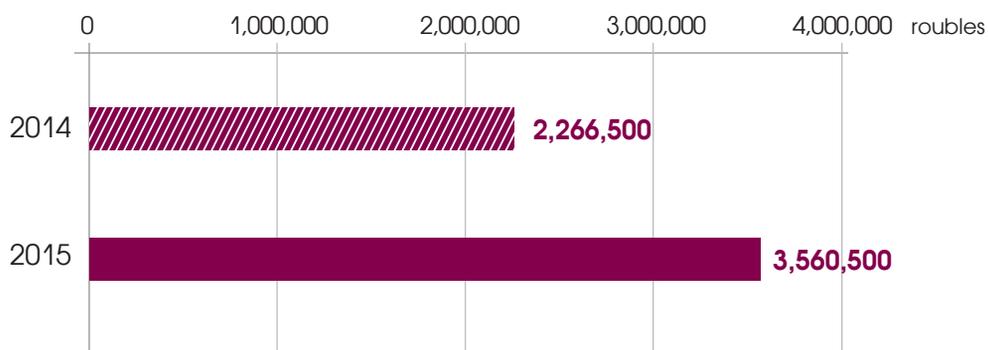


Figure 8.8

#### MONEY SPENT ON FINANCIAL AID TO EMPLOYEES





In 2015, the amount of money spent on financial aid to undergraduate and postgraduate students totalled 64,920,000 roubles. The aid was rendered to 12,984 people (see Figures 8.9, 8.10).

Figure 8.9

### FINANCIAL AID TO STUDENTS

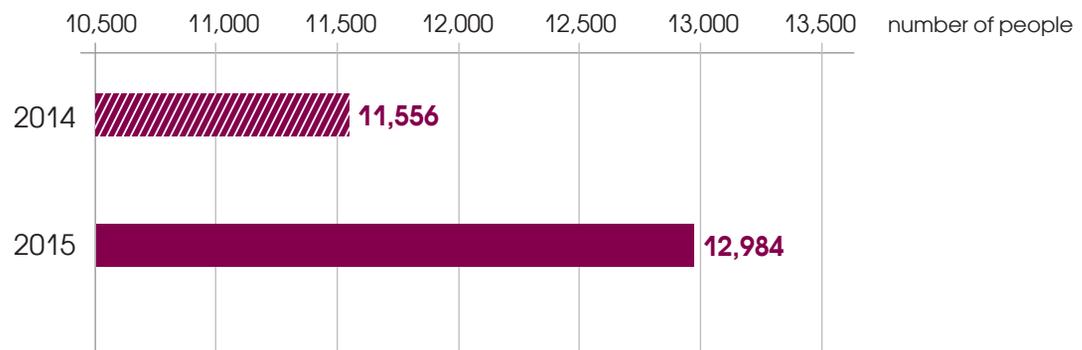
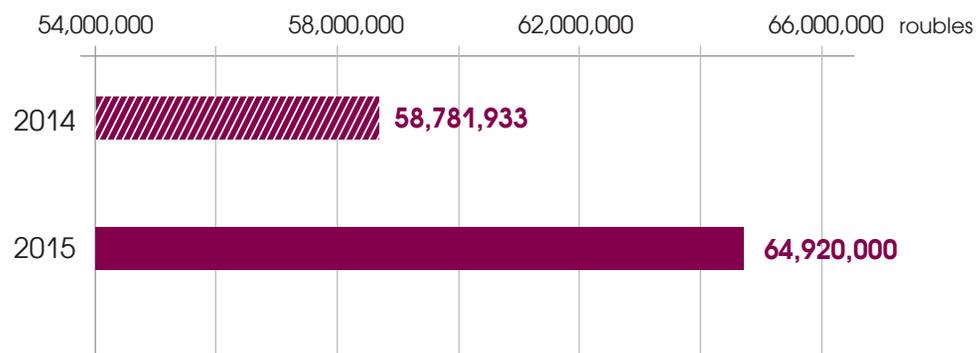


Figure 8.10

### MONEY SPENT ON FINANCIAL AID TO STUDENTS





## 8.4. BURSARIES

In 2015, the sum of bursaries paid to students totalled 34,020,000 roubles (see Figures 8.11, 8.12).

Figure 8.11

### NUMBER OF STUDENTS WHO RECEIVED BURSARIES

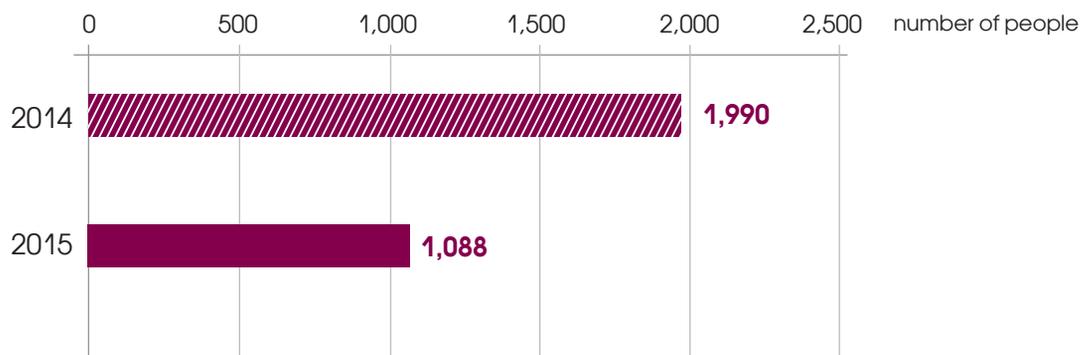
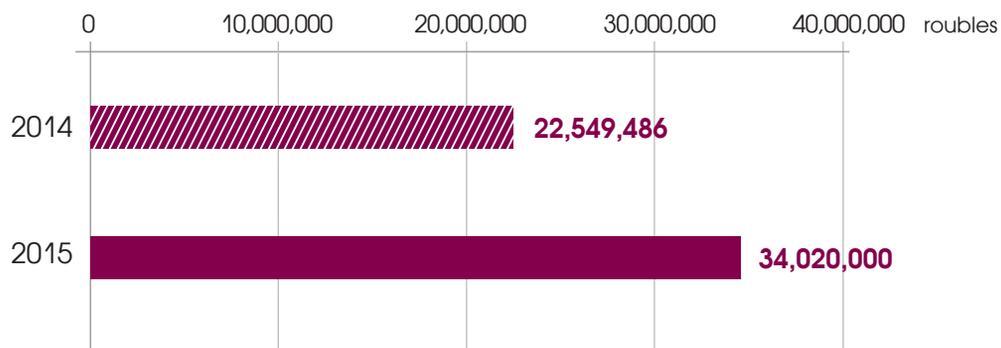


Figure 8.12

### MONEY SPENT ON BURSARIES





## 8.5. INTERACTION WITH THE VSU TRADE UNION

### **Social partnership was implemented at the University in accordance with the Labour Code of the Russian Federation, Article 24.**

1. In 2015, a permanent joint negotiation committee registered and analysed all incoming suggestions on the changes to the Collective Contract. Approved additions and changes to the Collective Contract were negotiated and recommended by the committee to be signed by the parties. Namely, Annex No 1 to the Regulations on the Compensations and Benefits to the Employees of Voronezh State University and Annex No 10 to the List of Positions Entitling Employees to Additional Paid Leave for a Non-Standard Work Day were revised. On 20 June 2015, at the Conference of Academic Staff, Representatives of Other Groups of Employees and Students the Collective Contract was prolonged with all the changes and additions for the next three years (until June 2018) in accordance with the Labour Code of the Russian Federation, Article 43.
2. The Trade Union in collaboration with the Department for Student Affairs and Social Development (hereinafter – DSASD) analysed a long-standing practice of pricing holiday packages to the “Venevitinovo” recreation facility and developed reasoned proposals for setting the full price of the holiday package in 2015 and establishing the system of perquisites for University retired employees, current employees, and their children. The Trade Union in cooperation with DSASD regularly monitored the work of the “Venevitinovo” complex throughout the holiday season:
  - A joint committee visited the recreation facility at various times before the start of the holiday season in order to draw up a list of urgent works to prepare the facility for the opening.
  - During the summer holidays, the committee regularly visited the site to examine the recreation conditions for employees and immediately eliminate any problems.

The number of people who spent their holidays at the “Venevitinovo” recreation facility amounted to 574 including 277 VSU employees, 111 employee’s children of the preschool- or school-age, 122 family members of employees, 25 retired University employees, and 39 outsiders. Overall, there were five twelve-day holiday periods during the season.

3. A long-standing joint programme was given an extension, which enables University employees to attend classical music concerts of the Voronezh Academic Symphony Orchestra and Voronezh Youth Symphony Orchestra held at the Philharmonic Hall and the University Hall respectively. Twice a year from 90 to 100 classical music lovers among current and retired University employees, buy season tickets at reduced prices. University aggregate annual expenditure on this project amounted to 180,000 roubles. On 2 September 2015, a concert of Voronezh Youth Symphony Orchestra was held at the University Hall to congratulate all VSU employees and students on the beginning of the new academic year. The concert was declared a real cultural breakthrough of the year. After that, the Trade Union of Employees in collaboration with DSASD extended the programme to include students: in 2015, 80 VSU students attended symphonic music concerts with student season tickets. University expenditure amounted to 68,000 roubles.



- 4.** A joint committee regularly examined the reports about teaching load and planning at different faculties and University-wide departments. It also analysed the standards for various types of teaching load. The committee members participated in the work of the Research and Methodology Board. In accordance with the Collective Contract, Clause 5.4.11, the committee developed a reasoned proposal to the Rector to establish a maximum teaching load of 880 hours for the current academic year (the Order No 0638 dated 28 July 2015).
- 5.** A transition to the effective contract was conducted throughout the year in the form of regular meetings and consultations of the Trade Union, the Board of Human Resources and Administrative Policy, the Department of Health and Safety, and DSASD. Standard labour contracts were developed for the different groups of employees taking into consideration their working conditions. These contracts were supplemented with the agreed clauses containing the criteria for stimulating academic, administrative, and managerial staff members, which if met by employees entitle them to incentive payments.
- 6.** The Trade Union representatives sat in expert committees on internal grants for academic staff members and took part in group discussions of the candidates for various nominations. This project was considered quite successful. It laid the foundation for another University tradition aimed at supporting creative initiative among academic staff members.
- 7.** Throughout the year DSASD, the trade unions of employees and students, as well as student self-governance boards regularly monitored the work of almost all VSU food courts. The administration of the University Food Service Department was informed of the monitoring results to take any necessary measures. The canteen at the “Venevitinovo” recreation facility was under constant control. During the holiday season, there were no complaints about the services it provided. On the contrary, the members of the joint committee, which monitored the work of the recreation facility, repeatedly passed the tourists’ compliments on to the employees working at the canteen.
- 8.** The celebration of the 70th Victory Day anniversary was prepared in collaboration with the University administration and the Trade Union. In plenty of time before the event, DSASD and the Trade Union Committee compared and revised the lists of veterans and the University bought presents for them. In 2015, a traditional University celebration held in the veterans’ honour was attended by a great number of VSU employees and students. An amateur historical re-enactment club reconstructed



the events, soldiers' uniforms, and machines of the Great Patriotic War, took part in the meeting and the festive programme. Veterans had the opportunity to talk to University employees and students as well as to each other and to listen to wartime songs. Although the University does not have a Council of Veterans, owing to the efforts of the Trade Union, DSASD and amateur re-enactors, the celebration of the Victory Day at the University was informal and really warm, which the grateful veterans appreciated.

- 9.** For many years, DSASD, together with the Trade Union, has been supervising single pensioners. In the reporting year, in accordance with the Order of the Rector, 50 people from this list received material incentives on the International Day of Older Persons. The University answered requests coming from individual pensioners and helped them in difficult situations including financial aid and legal assistance.
- 10.** A joint social committee functioned normally and made decisions on the reasoned rendering of financial aid to employees and partial reimbursements for treatment expenses at health resorts on a regular basis. In 2015, in accordance with the Collective Contract, Clause 5.8.2, the committee repeatedly solicited the Rector for increased non-recurrent severance payments to the oldest retiring University employees. As a result, 11 people received severance payments that were fivefold greater than the official monthly salary.
- 11.** The Administration supported the proposals of the Trade Union to restore the tradition of day-off trips and now renders University transport for excursions organised by the Trade Union of Employees. In 2015, University employees visited the birthplace of the composer S.V. Rakhmanin in the village of Ivanovka in the Tambov Region, the Palace of Oldenburg in Ramon, and the Archaeological Museum in the village of Kostenki in the Voronezh Region.
- 12.** The Trade Union, together with the Department of Health and Safety, regularly monitored the working conditions of employees. Joint committees visited the employees' workplaces on a regular basis. VSU formulated and implemented consensual proposals to increase the number of perquisites for University employees whose working conditions are not normal. As a result, in 2015, 148 people were paid compensatory incentive increments in the amount of 12% above the official monthly salary, 29 people were paid increments in the amount of 24%, and 160 people received extra payments for milk due to adverse working conditions at their workplaces.



## **8.6. PROGRESS REPORT ON THE GRANT OF THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION FOR THE DEVELOPMENT OF STUDENT COMMUNITIES**

In 2015, VSU won the Contest of Programmes for the Development of Student Communities for the third time in a row. The grant amounted to 14 million roubles.

Voronezh State University has been working within the Programmes for the Development of Student Communities since 2012. Since then, a strong student team, which holds events within the Programme, has emerged at VSU. The Students' Board (hereinafter – the Board), is the main management structure which includes representatives of more than 20 independent student organisations. The Board Chairperson, and the students responsible for certain sections within the Programme, are in charge of planning and monitoring events.

The Programme for the 2015/16 academic year set the following goals: development of the innovative approach to student research, integration of students into the professional community, improvement of their professional competences, development of the social and cultural environment which encourages student creative self-expression and self-fulfilment, promotion of a healthy lifestyle, and the provision of intercultural, inter-confessional and international cooperation.

Each event within the Programme belongs to a certain section.

### **1. RESEARCH AND INNOVATIONS**

This section included two events one of which (the "Tournament of Three Sciences") was held in the first half of 2015 and the other (an off-site research session) was prolonged until the end of the year.

#### **"TOURNAMENT OF THREE SCIENCES"**

Developing an innovative approach to research in general, and to student research in particular, is one of the current crucial tasks. Searching for solutions to scientific problems in an original and creative way is a part of this innovative approach. This is the reason why, within the framework of the Programme, we hold the "Tournament of Three Sciences", which involves solving specific production problems by means of original methods used at the intersection of such disciplines



as Mathematics, Physics, Chemistry, and Biology. The interest in this tournament that is expressed by a great number of manufacturing enterprises (Kosmos-Neft-Gaz, EFKO, Concern Sozvezdie, etc.) can be explained not only by the fact that the participants are able to solve problems in an original way. Some companies such as, for example, the EFKO Group, express their willingness to offer internship to the most prominent participants of the tournament. Thus, this event pursues quite a specific goal that is to acquaint students with the exemplary tasks that they may encounter at a manufacturing site, integrate students into professional communities, and introduce them to potential employers. Another advantage of the tournament is the fact that the teams consist of students acquiring different specialities which enables them to solve problems lying at the intersection of various disciplines.

Moreover, the "Tournament of Three Sciences" is one of the most spectacular and original events held within this section. The authors of this project study or work at VSU. The event was held at the University for the fourth time. Every year it attracts more and more participants from different Russian regions. In 2015, the project won the contest of projects organised by the Voronezh Region Youth Government.

The cost estimate of the project was drawn up with allowance for VSU investments and subsidy. However, owing to sponsor support, which amounted to 175,000 roubles, the coordinators of the project managed to organise better entertainment, a guided tour around the city for all the participants, and quickly tackle a number of logistics and accommodation problems.

#### OFF-SITE RESEARCH SESSION

The event involves students creating projects and presentations within a particular research area and a multistage selection of the best projects. The first stage of the project was held at the University in April 2015. During this stage, students demonstrated their projects and presentations first at the departments where they are acquiring their specialisation, and then at the faculty in front of all academic staff members. The authors of the projects that received good marks, and were highly appraised by the contest committee, had an opportunity to attend conferences of different levels and present their scientific achievements there. Almost 3,000 students took part in the University stage of the project. Around 300 of them were recommended for further participation in conferences and symposiums of young scholars. 213 students have received prizes, awards, and diplomas from national and international conferences so far.

## 2. PROFESSIONAL COMPETENCES

Improving the professional competences of students within the educational process is a crucial task as well. By graduation, students will have not only theoretical knowledge in the field of expertise that they have chosen, but also work experience in various areas. Student teams working within seven different areas contribute to the fulfilment of this task. During holidays, future psychologists and experts in pedagogical education, as well as students of other specialities that are working towards the further education



qualification "School Teacher", work in children's rest camps as part of the youth leaders' group "Rodnik". There is also a law enforcement team "Femida", a team of young geologists "Zyornyshko", a team of conductors, and a team of builders. The meeting and the Spartakiad of the most active representatives of student teams from the Central Federal District were also part of the Programme (the Spartakiad is a mass sports contest held in Russia and some former Soviet republics).

#### MEETING & SPARTAKIAD OF STUDENT TEAMS FROM THE CENTRAL FEDERAL DISTRICT

The meeting and the Spartakiad included the following events: an opening ceremony attended by the Commander and the Commissioner of the Russian Student Teams Central Headquarters and the veterans of the movement, creative performances on the topic "Presentation of the Region", active outdoor games, a team songfest around the fire, and watching videos about the last working summer. Reaching GTO (Ready for Labour and Defence) qualifying standards among male and female students was a special event of the Spartakiad. It was the first round of the Spartakiad preliminary for the students. The best athletes of the meeting went to the All-Russian Meeting and Spartakiad in Tchelyabinsk as part of the Central Federal District team.

#### TEN DAYS OF LEGAL ASSISTANCE

In 2011, VSU opened a legal clinic "Avgust" where senior students supervised by lecturers from the Faculty of Law rendered free legal assistance to citizens. Students do their first practical training here, familiarise themselves with records management, and help representatives of socially vulnerable groups to solve different problems. Around 20 legal advisers work in the clinic full-time and up to 100 people do their practical training here. In 2015, the legal clinic organised a monthly off-site counselling called "Ten Days of Legal Assistance". Several off-site events were participated in by schoolchildren. Since the clinic does not charge its customers for their services, it provides a cost estimate consisting mainly of the expenses for stationery and expendable materials for printers. At present, about 30 students specialising in different areas of law work in here full-time. In 2015, the clinic rendered legal assistance to over 500 people.



### 3. CULTURE AND CREATIVITY

Student amateur talent events are usually considered a potent activity among VSU extracurricular activities. 17 University facilities have a long-standing tradition of performing at the annual festivals “University Spring” and “First-Year Student”. In 2012, for the first time, owing to the financial aid provided by the Programme, the VSU creative team was able to present its best performances at the “Russian Students’ Spring” festival, the most spectacular and large-scale event for all creative students. Of course, in order to support the activities of talented student amateurs at an adequate level, it is necessary to organise regular training workshops. Such workshops are held at the University at the beginning of September and are called “VSU School for Student Activists”.

#### VSU SCHOOL FOR STUDENT ACTIVISTS

This event is aimed at shaping an integrated creative environment for students as well as at their self-development and mutual development by means of participating in various types of workshops, which enable all students to fulfil their creative potential to the full extent. Senior students and graduates take part in the event as organisers whereas second and third year students, who have already performed at different festivals, are participants. Students spend a week at a University holiday camp where they attend lectures and master classes devoted not only to creative activities, such as directing performances, developing acting skills, etc., but also to fund-raising, time management, and the basic principles of coping with stress, which accompanies on-stage performances, as well as preparation for examinations. Special emphasis is placed on self-presentation skills, the ability to behave in public, communicative workshops, and the development of leadership potential. In 2015, the School enlarged the number of its focus areas. In particular, project work and the organisation of student self-governance were singled out into a separate section. In 2015, the judges of the “Russian Students’ Spring” festival and the actors of the theatre “Unison” Irek Ibatullin and Elena Mariakhina, the Honoured Artist of the Republic of North Ossetia-Alania Zarina Khubayeva, and the Associate Director of the festival Anastasia Makhnakova, took part in the School’s work. All the guests highly praised the level of the event, students’ performance, and most of all, the work done by the Student Board.

#### “UNIVERSITY SPRING”

The “University Spring” festival certainly remains the most spectacular student event. Over a three-week period, 17 VSU creative teams present their full-fledged concert programmes, which embrace various genres. The best performances are shortlisted for the regional festival “Students’ Spring – Youth Creativity” and the performances that are awarded with diplomas have the opportunity to represent the Voronezh Region in the national round. In 2015, VSU presented three dancing performances all of which became prizewinners in a particular nomination. Moreover, VSU students were invited to the international festival “Students’ Spring in the Baltics”. They were also highly praised there and were included in the programme of the closing concert.



Every year, more and more people take part in the festival. The performance targets planned for this event were exceeded (3,200 actual participants versus 2,550 planned participants). Equipment rental and concert costumes for dancers are among the main expenditure items. In the reporting year, because the location chosen for the final round of the festival was rather far away, the major expenses included the cost of the tickets and the registration fee. All the payments were made in accordance with the initial estimate, and there was no over-expenditure.

Student activists coming from different faculties that are members of the Student Board are responsible for the organisation of all creative events.

#### **4. SPORTS AND A HEALTHY LIFESTYLE**

Promoting a healthy lifestyle among young people is a pressing problem today. Large-scale sports festivals help to cultivate a love of sports in students and awaken their interest in it. Anyone apart from students who regularly does sport can try it and take part in such a festival. That is why a sports festival was included in the Programme.

##### **ALL-RUSSIAN FESTIVAL OF MASS STUDENT SPORTS "STUDENTS' SPORTS WEEK"**

The festival was initially planned to be held at the end of the academic year (in May or June). However, due to a delay in financing and a great number of events in student life, it was decided to postpone the festival until November 2015. Indoor soccer (men), basketball (women), and mixed volleyball tournaments were held during the festival. It is also necessary to say a few words about the leisure activities organised at the festival. The team of organisers was motivated by the motto "Not a minute without sports!" The leisure activities were devoted to sports as well. For instance, mass ice skating became one of the highlights of the festival. The participants noted that it was the most interesting leisure activity that could be organised at an event of such a level. The participants had an opportunity to take part in contests related to ice-skating and were awarded with prizes. In addition, there were a number of flashmobs. In the evening, there was a bowling tournament and the participants played board games organised by the partner company Mosigra. The festival was concluded with a home match by the Voronezh hockey team "Buran".

This event is organised by a newly established student sports club together with the Department of Physical Education and Sports of VSU.

#### **5. VOLUNTEER MOVEMENT AND SOCIAL PROJECT MANAGEMENT**

VSU has a well-developed volunteer movement. The Volunteer Club has over 500 active members. Around 1,000 students do a part-time work there. Students implement a wide variety of socially relevant projects. However, only one of them was included in the 2015 Programme. It was the largest and ambitious project, connected with establishing the League of Intellectual Games.



### ALL-RUSSIAN STUDENT LEAGUE OF INTELLECTUAL GAMES

A team of student activists has been organising various festivals of intellectual games at VSU since 2011. Students are quite right to think that spectacular large-scale events can be related not only to creativity. It is also very important not to forget about intellectual activities. In 2012, the Cup of the Black Earth Region in the sport version of the game “What? Where? When?” This was the largest festival supported by the Programme, and was participated in by about 100 people from seven Russian regions. Three large-scale championships were to be held according to the 2015 Programme:

- The National Student Championship in the sport version of the game “What? Where? When?” (April 2015).
- The traditional Cup of the Black Earth Region (June 2015).
- The European Championship in the sport version of the game “Svoya Igra” (October 2015).

A finalising seminar for the activists of the intellectual game movement in Voronezh in December 2015 after which, the Student League of Intellectual Games was finally established and a number of guidelines for new members of the movement were published.

Members of the elite club of experts from the TV version of the game “What? Where? When?” are invited to all large-scale events. In April 2015, the National Student Championship was attended by the producer of the game, Andrey Kozlov, who highly praised the level of the event and the scale of the contest.

The National Student Championship was participated in by over 400 students from 50 Russian regions. The Internet tournament “VSU World Champ” combined with the Cup of the Black Earth Region attracted participants not only from Russia but also from more than 20 other countries including Australia, New Zealand, the USA, Canada, and the UK.

The Combined National and European Championship in the sport version of the game “Svoya Igra” held in October 2015 was a great ending for such an eventful year. It was participated in by 18 representatives of European countries and former republics of the CIS as well as by representatives of 30 Russian regions. One of the permanent participants of the tournaments held at VSU, a player of the TV version of the game “What? Where? When?” Iliya Novikov noted the high level of the games and the organisation of the championship overall.

## 6. INTERCULTURAL DIALOGUE

Students from over 20 countries including former republics of the USSR study at VSU. The events conducted in the field of intercultural connections and the harmonisation of international relations yielded tangible results. In 2015, a forum attended by the leaders of student fraternities in the Central Federal District universities was held.

### FORUM OF THE LEADERS OF STUDENT FRATERNITIES IN THE CENTRAL FEDERAL DISTRICT UNIVERSITIES

The forum consisted of three parts and was conducted under the slogan “We speak one language”. The focus of the first part of the forum was on the history of relations between different nations in the territory of Russia in modern times. Great attention was also paid to the history of the Great Patriotic War. The second part was devoted to the defence of projects aimed at the development of intercultural and international connections. The third part was dedicated to shaping the concept of long-term cooperation between various student fraternities in the Central Federal District universities.



## 7. INTERNATIONAL COOPERATION

VSU has been establishing connections with the representatives of universities in neighbouring countries and beyond for over 20 years. VSU alumni affiliated with various universities in Europe, Asia, and America also contribute to strengthening and expanding these connections. International student exchanges make a great contribution to the development of such cooperation.

### INTERNATIONAL STUDENT EXCHANGE

The project is primarily aimed at students studying Natural Sciences. Owing to internships in foreign universities, these students can significantly improve their professional competences and the level of language proficiency, as well as gain the experience necessary for their future employment. Annually, VSU helps more than 50 of the most talented students to win grants for their internships. The exchange means that not only Russian students go to foreign universities but also the representatives of the host country make a return visit to Russia. The exchange programme involves not only research. There are also meetings with the leaders of trade unions and student boards where the parties exchange experience in solving different kinds of problems.

It should be noted that the dynamics of the Programme's implementation were generally positive. Out of all the planned events, only one was postponed, all others were carried out within the established time limit, and the estimate was not exceeded. It should be mentioned that the number of students actively participating in the work of the Joint Students' Board considerably increased: in 2014, the number of such students amounted to 150, and by the end of 2015, it rose up to 280. These students include the authors of the projects and the heads of certain areas of focus monitoring and supervising the work of their organisations. The Student Board has a reserve of over 1,000 volunteers that can be attracted to the organisation of large-scale tournaments or other events. Furthermore, in the reporting period the students heading various areas of the Board's focus gained experience in conducting big tournaments attended by participants from other regions and special guests. Such work not only requires a high level of organisation, responsibility, and independence, but also leads to the establishment of relations with other regions in the field of work with young people.

The main goals set by the Joint Students' Board for 2015 included the promotion of sports, intellectual leisure activities, and student teams without sacrificing quantitative and qualitative indicators in other areas of focus. Following the results of the Programme's implementation, it may be said that all the performance targets were exceeded, and the events were conducted successfully. Thus, the goals set by the Programme were achieved in full.



## 8.7. BRIEF OVERVIEW OF THE CONTESTS “FIRST-YEAR STUDENT”, “STUDENTS’ SPRING”, “WHAT? WHERE? WHEN?”, “STUDENT MARATHON”

### PARTICIPATION IN THE YOUTH FESTIVAL “ALL-RUSSIAN STUDENT MARATHON”

**Date:** 3-7 February 2015.

**Location:** the health and sports centre “Orbita” in the Tuapse Region of the Krasnodar Territory.

**Brief description:** The “All-Russian Student Marathon” is a unique event, which serves as a platform for creative self-fulfilment of students studying at different universities within various specialities. The programme for the marathon combines sports contests, creative contests, and intellectual tournaments. The VSU team took part in the marathon for the seventh time.

**Main achievements:** in 2015, the VSU team “Doctor of Sciences, Professor Shvarzengold” received the following awards:

- First place in the intellectual tournament “Brain-Ring”.
- First place in the contest of dance performances.
- First place in the original genre contest “Steel Band”.
- First place in the make-up and costume contest “ComiCon”.
- First place in the contest “KVN” (the Club of the Cheerful and Sharp-Witted).
- Second place in the contest of original patriotic songs.
- Second place in the indoor soccer tournament.
- Third place in the billiards tournament.

Thus, the VSU team won first place in the overall standing within the creative programme and the first place in the team total repeating the results of the last visit in 2012.

### NATIONAL STUDENT CHAMPIONSHIP IN INTELLECTUAL GAMES

**Date:** 18-19 April 2015.

**Location:** the shopping centre “Maksimir”, Voronezh; Voronezh State University.

**Brief description:** The events aimed at promoting and developing leisure activities have been included in the VSU Programme for the Development of Student Communities since 2011. Twelve different-level events have been conducted since then. The National Student Championship is by far the most large-scale event within this area of focus. Over the years, the University has gained a reputation of being “the intellectual centre of Russia” and the flagship of the intellectual movement. The programme of the championship included not only a tournament in the popular game “What? Where? When?” which



was actually the main event but also contests in “Erudite-Quartet”, “Svoya Igra”, and “Brain-Ring”. The “Brain-Ring” final was hosted by a popular TV presenter and the creator of the game, Andrey Kozlov. Rovshan Askerov and Mikhail Skipskiy, experts from the elite TV club “What Where? When?” were invited to judge the games.

**Main achievements:** The event was participated in by 360 people from 44 regions of the Russian Federation. 37 question packages were played in various sections of the contest. The score awarded to the event by the International Association of Clubs amounted to 8.39 out of 10.

### **OPEN CUP OF THE BLACK EARTH REGION IN INTELLECTUAL GAMES COMBINED WITH THE SYNCHRONISED TOURNAMENT “VSU DREAM CHALLENGE”**

**Date:** 6–7 June 2015 (the Open Cup of the Black Earth Region in Intellectual Games) and 12–17 June 2015 (the synchronised tournament).

**Location:** Event-Hall; Voronezh State University.

**Brief description:** The III Open Cup of the Black Earth Region in Intellectual Games was organised by Voronezh State University, the Joint Students’ Board of VSU, and the Intelligent Technologies Centre “TSIT.RUS”. The Evgeniy Khamin Group was the general sponsor of the tournament. The Cup partner companies included DataArt, Prosveshchenie Digital, and Churyumov Studio. The business information agency ABIREG.ru was the main media partner. More than 60 teams from 22 Russian cities expressed their willingness to take part in the event including the world champion teams of “KSEP” with the two-fold Crystal Owl Prize winner Iliia Novikov and “Borskiy korabel” strengthened by the continental champion Aleksandr Korobeinikov. The international synchronised tournament “VSU Dream Challenge” took place at the same time with the Voronezh Cup and was held in over 25 countries such as the CIS, the Baltics, Georgia, Ukraine, Israel, the USA, Canada, the Czech Republic, Germany, the UK, Sweden, and Australia.

**Main achievements:** The Open Cup of the Black Earth Region is not only the largest forum of intellectual games in Europe but also a key qualifying platform. Its winner secured a place among the participants of the world championship held in October 2015 in Tbilisi. Over 60 teams from 39 Russian regions took part in the event. The total number of participants amounted to 370. The Cup was followed by the international synchronised tournament “VSU Dream Challenge” in the game “What? Where? When?” participated in by more than 2000 players from three continents. The applications came from different parts of the world: Khabarovsk, Haifa, Baku, Tallinn, Astana, and Silicon Valley in Palo Alto.

The Saint Petersburg team “Eclipse” which managed to answer 32 questions out of 40 became the winner of the “VSU Dream Challenge”. The runner-up team “Minus odin” (Kiev) lagged “Eclipse” by just one point. The third prize for 29 answers was shared by three teams – “Birkirkara” (Moscow), “Sol bemol” (Moscow), and “Keisecker” (Kiev).



## COMBINED NATIONAL AND EUROPEAN CHAMPIONSHIP IN THE SPORT VERSION OF “SVOYA IGRA”

**Date:** 24–25 October 2015.

**Location:** the hotel Mercure, Voronezh.

**Brief description:** The Combined National and European Championship in the Sport Version of “Svoya Igra” is a unique event for the region as well as for the intellectual community in general. The event is organised by the Joint Students’ Board of VSU and the Intelligent Technologies Centre “TSIT.RUS”. The championship is supported by the International Association of Clubs for the sport version of the game “What? Where? When?” The partners of the Combined Championship include the hotel Mercure (an official venue), the company Prosveshchenie Digital, Churyumov Studio, and the business information agency Abireg.

**Main achievements:** The event brought together 45 of the most intelligent players from Russia, Israel, Switzerland, Kazakhstan, Armenia, Georgia, Azerbaijan, Moldova, Ukraine, Belarus, and the EU countries. The participants of the tournament came from many cities including Tomsk, London, Saint Petersburg, Tel Aviv, Vienna, and Almaty.

The programme for the championship consisted of two rounds and a play-off. All in all the players had 50 intellectual battles. Each battle included from 25 to 60 questions grouped according to very diverse topics – Natural Sciences, World Literature, Internet Folklore, Popular Culture, Economics, Religion, Travel, etc. The questions had been prepared by the international team of professional editors. The score awarded to the Combined National and European Championship in the Sport Version of “Svoya Igra” according to the scale for rating intellectual mass events amounted to 9.7 out of 10. As a result, the championship took second place for the first time in the history of such events.

## PARTICIPATION IN THE FINAL ROUND OF THE “RUSSIAN STUDENTS’ SPRING”

**Date:** 15-20 May 2015.

**Location:** Vladivostok, the Far Eastern Federal University campus.

**Brief description:** Owing to the Programme for the Development of Student Communities, the VSU team participated in the “Russian Students’ Spring” festival for the fourth time representing not only the University but also the Voronezh Region in general. In 2015, due to the fact that the location chosen for the final round of the festival was rather far away, the event was participated in by only one creative team, supervised by Alexey Goncharov, master’s degree student of the Faculty of Applied Mathematics, Informatics, and Mechanics. The team presented three dancing performances.

### Main achievements:

- Third place in the nomination “Contemporary Dance. Small Forms” was awarded to the performance “A Place in the Sun” (A. Goncharov, K. Gornostayev, K. Tsobor, M. Konovalova).
- Second place in the nomination “Popular Group Dance” was awarded to the performance “Family”.
- First place in the nomination “Hip-Hop and Sport Group Dance” was awarded to the performance “Believe in the Miracle”.

Thus, all three performances representing the Voronezh Region were highly praised by the judges.



## VSU SCHOOL FOR STUDENT ACTIVISTS

**Date:** 7-13 September 2015.

**Location:** the “Venevitinovo” sport and fitness complex.

**Brief description:** The event is aimed at fostering the hidden talents of students, promoting mass culture events, and developing creativity as well as the ability to work in a team. Traditionally, the training at the School for Student Activists is done within the following areas: acting skills, voice training, dancing, and circus skills. In 2015, the list was expanded with project work and the organisation of mass events.

**Main achievements:** 40 students took part in the event as organisers, and 120 students took part as participants. The group of coaches included actors from the theatre “Unison”, Elena Mariakhina and Irek Ibatullin, the Honoured Artist of the Republic of North Ossetia-Alania Zarina Khubayeva, and the Associate Director of the “Russian Students’ Spring” festival Anastasia Makhnakova. During the event, the students had an opportunity to learn about various creative trends and attend lectures on stress resistance, time management, project management strategies, and the skills necessary for the self-presentation and presentation of one’s ideas.

### “FIRST-YEAR STUDENT”

The “First-Year Student” festival is a traditional event aimed at discovering creative skills among the students newly admitted to VSU. In 2015, the festival was held in November at the VSU Concert Hall. Around 200 students performed at the event, and almost 2000 students came to see it.

The distribution of places according to faculties was as following:

- 1st – the Faculty of Applied Mathematics, Informatics, and Mechanics.
- 2nd – the Faculty of Law.
- 3rd – the Faculty of Philosophy and Psychology.
- 4th – the Faculty of Computer Sciences.
- 5th – the Faculty of History.
- 6th – the Faculty of Economics.
- 7th – the Faculty of Journalism.
- 8th – the Faculty of Romance and Germanic Philology.
- 9th – the Faculty of Geography, Geoecology, and Tourism.
- 10th – the Faculty of Pharmaceuticals.
- 11th – the Faculty of Geology.
- 12th – the Faculty of Physics.
- 13th – the Faculty of International Relations.
- 14th – the Faculty of Philology.
- 15th – the Faculty of Biology and Soil Sciences.
- 16th – the Faculty of Chemistry.
- 17th – the Faculty of Mathematics.



### “STUDENTS’ SPRING”

The “University Spring” is a great occasion, which lasts at the VSU Concert Hall for almost two weeks. Each faculty makes a full-fledged two-hour concert which includes performances of various genres and trends (dancing, theatrical, musical, and original genres) united by one style and scenario. Every year the festival provides an opportunity to discover new talents who then participate in the regional round of the festival.

The results of the University round

The First League

The distribution of places according to faculties was as following:

- 1st – the Faculty of Romance and Germanic Philology.
- 2nd – the Faculty of Mathematics.
- 3rd – the Faculty of Biology and Soil Sciences.
- 4th – the Faculty of History.
- 5th – the Faculty of Chemistry.
- 6th – the Faculty of Pharmaceutics.
- 7th – the Faculty of International Relations.
- 8th – the Faculty of Journalism.
- 9th – the Faculty of Philosophy and Psychology.

The Premier League

The distribution of places according to faculties was as following:

- 1st – the Faculty of Computer Sciences.
- 2nd – the Faculty of Geology.
- 3rd – the Faculty of Physics.
- 4th – the Faculty of Applied Mathematics, Informatics, and Mechanics.
- 5th – the Faculty of Law.
- 6th – the Faculty of Geography, Geoecology, and Tourism.
- 7th – the Faculty of Economics.
- 8th – the Faculty of Philology.

## 8.8. BRIEF OVERVIEW OF THE EVENTS HELD TO DEVELOP PATRIOTISM AND THE CIVIC STANCE

### VALENTIN PIKUL LITERARY CONFERENCE

**Date:** 22 October 2015.

**Location:** Voronezh State University.

**Brief description:** The Pikul Literary and Historical Conference was held in the auditorium of the main building of Voronezh State University on 22 October 2015. The conference was devoted to the Pikul’s artistic legacy and its potential in the modern world. The main guest of the conference was Antonina Pikul.



**Main achievements:** The conference was participated in by over 400 students and employees of Voronezh universities. Following the results of the conference, it was decided that Nikolay Sereda, a postgraduate student of Voronezh State University, should become a member of the Central Board of the All-Russian Movement for Navy Support.

#### **MEETING OF THE EXECUTIVE BOARD OF THE ALL-RUSSIAN MOVEMENT FOR NAVY SUPPORT**

**Date:** 15 December 2015.

**Location:** Moscow.

**Brief description:** The Executive Board of the All-Russian Movement for Navy Support held an extended meeting.

**Main achievements:** The members of the Executive Board of the All-Russian Movement for Navy Support listened to the report made by Nikolay Sereda on the issues concerning the support and implementation of the youth initiatives in the territory of the Voronezh Region in 2016, connected with the year of cinema and the promotion of patriotism among young people.

### **8.9. BRIEF OVERVIEW OF THE STUDENT FESTIVALS, CONCERTS, CAMPAIGNES, AND CHARITY**

#### **MEETING OF THE MEMBERS OF THE JOINT STUDENTS' BOARD WITH THE GOVERNOR OF THE VORONEZH REGION**

**Date:** 17 November 2015.

**Location:** the village of Repnoye.

**Brief description:** The Governor of the Voronezh Region held a meeting with the representatives of the Joint Students' Board of VSU, the members of the Youth Government. The interactions between young people and government agencies as well as the implementation of youth projects in the territory of the Voronezh Region were the main issues on the agenda.

**Main achievements:** The Governor promised to support a number of projects developed by the members of the Joint Students' Board and personally participate in their implementation.



### **VSU TOURNAMENT IN LASERTAG “THE NIGHT OF LISERTAG”**

**Date:** 27 November – 20 December 2015.

**Location:** Voronezh State University.

**Brief description:** A night tournament of laser tag was held in the main building of Voronezh State University.

**Main achievements:** 540 students of Voronezh State University took part in the tournament. The University signed an agreement with the non-governmental organisation “Yuzhniy Fort” according to which it would participate in the organisation of the tournament and provide in 2016 a 50% discount for VSU students.

### **NATIONAL UNITY DAY MEETING**

**Date:** 4 November 2015.

**Location:** Sovetskaya Ploshchad, Voronezh.

**Brief description:** The meeting was participated in by VSU students including the members of the Joint Students’ Board who addressed Voronezh citizens in order to raise the patriotic spirit of the youth.

**Main achievements:** 80 students took part in the meeting. One student addressed Voronezh citizens.

### **IMMORTAL REGIMENT**

**Date:** 9 May 2015.

**Location:** Prospekt Revolutsii, Voronezh.

**Brief description:** A public campaign organised in Russia as well as in a number of neighbouring countries and beyond on the Victory Day. The participants of the event march in a column carrying placards with the photographs of their relatives who took part in the Great Patriotic War.

**Main achievements:** The march was participated in by 350 VSU students and employees.

### **DONORSHIP DAYS ORGANISED FOR STUDENTS OF VORONEZH UNIVERSITIES**

**Date:** 25 February – 30 December 2015.

**Location:** Voronezh State University.

**Brief description:** 14 campaigns were held to promote blood donation and collect the donated blood.

**Main achievements:** The number of people who donated blood amounted to 1,271. 560 of them were first-time donors, and 711 had done it before.



### **YOUTH EDUCATIONAL FORUM “YOUTH GOVERNANCE COMMITTEE”**

**Date:** 29-30 May 2015.

**Location:** Voronezh State University (the Faculty of Economics).

**Brief description:** The main goals of the forum include public monitoring carried out by youth organisations, gaining experience in conducting case tournaments, and creating a local community board at the municipal level. The forum is aimed at the students of Voronezh universities and young people from municipal districts.

**Main achievements:** The forum was participated in by 200 people. Six new projects for public monitoring were developed.

### **ALL-RUSSIAN FESTIVAL “STUDENTS’ SPORT WEEK”**

**Date:** 24-29 November 2015.

**Location:** Voronezh.

**Brief description:** The festival is aimed at promoting regular physical activity, a healthy lifestyle, and a positive attitude to life among students as well as at strengthening cooperation between Russian universities in the field of student social development.

The programme of the festival included the following contests:

- Indoor soccer (men).
- Basketball (women).
- Volleyball (3 men – 3 women).
- Bowling (5 people with the line-up chosen by the team).

**Main achievements:** 150 students of regional universities and 200 students of Voronezh universities took part in the event.

### **ORGANISATION OF THE CITY CONCERT VENUE ON 9 MAY**

**Date:** 9 May 2015.

**Location:** Prospekt Revolutsii, 24 (opposite Building 3 of Voronezh State University).

**Brief description:** Voronezh citizens had an opportunity to attend a VSU concert venue that was set up for city festive events for the second time. For the first time, VSU students organised such a venue on Sovetskaya Ploshchad during the Day of the City in 2014. In 2015, the venue was situated opposite Building 3 of Voronezh State University. The students, supervised by a DSASD staff member, set up the scene and decorated it with banners and posters. The programme included performances of VSU creative teams. The event was organised in cooperation with the Union of Kremlin Corps, the patriotic club “Platsdarm”, and the dancing studio “UnderStand”.

**Main achievements:** The venue was open from 9am until 10pm with one 30-minute break. There was a field kitchen near the site organised in cooperation with the company Yashkino, and from 11am until 1pm, citizens were welcomed to treat themselves with confectionery and patisserie. 15 veterans were presented with gifts. The average throughput of the venue amounted to 400 people an hour in the morning, 200 people in the afternoon, and 450 people from 6pm until 10pm.



## 8.10. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2015

The information below can be divided into two groups: achievements in the field of student development and creative activities, and achievements in the field of social work.

The achievements in the field of student development and creative activities include the following:

- The VSU team successfully performed at the annual festival “Students’ Spring in the Voronezh Region”.
- The VSU team won the first prize at the youth festival “All-Russian Student Marathon”.
- The Combined National and European Championship in the sport version of “Svoya Igra” was held (the event brought together 45 most intelligent players from Russia, Israel, Switzerland, Kazakhstan, Armenia, Georgia, Azerbaijan, Moldova, Ukraine, Belarus, and the EU countries).
- VSU became the four-time winner in the Contest of Programmes for the Development of Student Communities organised by the Ministry of Education and Science of the Russian Federation. This time the prize amounted to 12.6 million roubles.

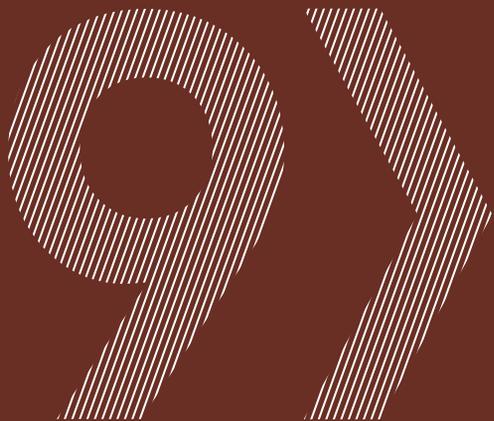
The achievements in the field of social work include the following:

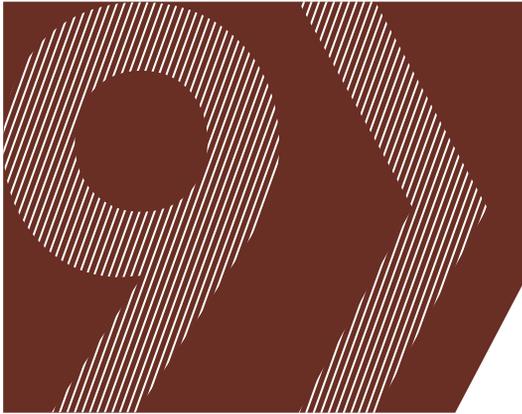
- Student bursaries were increased and amounted to 2,600 roubles.
- Decreasing coefficients for dormitory accommodation charges were introduced.
- Students were offered a new holiday destination – the Republic of Crimea.
- The social security level was improved. More funds were reserved for rendering financial aid to current and retired employees of the University, as well as for reimbursing employees their expenses for treatment at health resorts.





# CONSTRUCTION AND MAINTENANCE





## CONSTRUCTION AND MAINTENANCE



**V.F. Anokhin**

Vice Rector for facilities  
and capital development

### 9.1. MAJOR CONSTRUCTION AND MAINTENANCE GOALS FOR 2015:

VSU's major construction and maintenance goals for 2015:

To complete the construction of the "Training Swimming Pool of FSFEI HPE VSU in Voronezh". The technical-and-economic performance indicators for the project are as follows:

- Amount of construction work – 16,040 m<sup>3</sup> (including underground works – 4,394 m<sup>3</sup>).
- Total area – 2,463.3 m<sup>2</sup>.
- Visits per shift – 68 people.
- Number of floors – 2 plus the basement.

In 2015, 120,863 thousand roubles was spent to complete the project, including:

- Subsidies – 20,000 thousand roubles.
- Extra-budgetary financing – 100,863 thousand roubles.



Major maintenance goals for 2015 included:

- To timely submit applications, work orders, and repair logs to the purchasing department. The purchasing department uses these documents to hold auctions for repair works, to purchase household inventory, washing and cleaning products used to clean the university buildings.
- To complete minor and major repair works in the university buildings and dormitories.
- To maintain the normal operation of utility systems: electricity, gas, heat, water supply, and the system for water disposal.
- To timeously conclude contracts for the payment of utility services, waste collection, etc.
- To liaise with garage staff and provide support for summer practice trainings for students held in Voronezh, Lipetsk, Kursk, and Krasnodar Regions.

## **9.2. LIST OF CONSTRUCTION AND MAINTENANCE WORKS COMPLETED IN 2015**

In accordance with the goals:

- In 2015, the Capital Construction Board completed construction of the swimming pool located at the address: 88/1 Moskovsky prospekt. Commissioning permit (No RU-36302000-1 of 16 January 2015) was received for the Voronezh State University dormitory located at the address: 42A Ulitsa Kholzunova, Voronezh. The area of the building is 9,075.94 m<sup>2</sup>.
- In 2015, the Facilities Administration developed the technical documentation and held 43 auction applications for repair works (see Table 9.1). Auctions were conducted for the total amount of 25,475,772.44 roubles. (16,767,185.75 roubles of federal financing and 8,708,586.69 roubles of extra-budgetary financing).

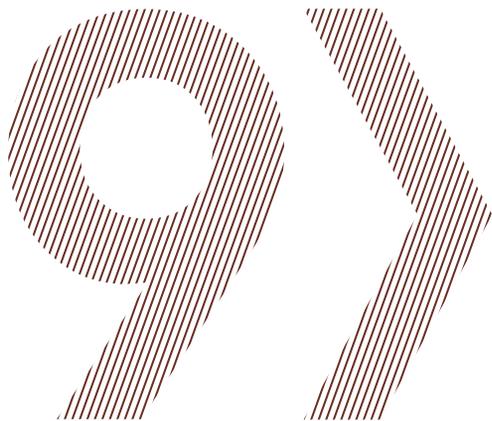


Table 9.1

LIST OF COMPLETED MAJOR REPAIRS

No	Work item	Source of financing	
		State-funded, thousand roubles	Extra-budgetary financing, thousand roubles
1	Renovations of rooms No 5, No 9–24 and the hall; repair of power supply systems (university building No1)	1,152,934.93	
2	Renovations of room No130 (university building No 3)	1,360,000	
3	Renovations of the ground floor, 1st and 2nd floor men's toilets (university building No 1)	1,188,144.22.	
4	Renovations of ground floor, 1st and 2nd floor ladies' toilets (university building No 1)	1,103,001.22	
5	Development of an urban landscaping project at the main entrance of university building No5		30,458.95
6	Development of the section "Estimate documents" of the project of major repairs for the ground floor facilities (university building No 2 – 3 Ulitsa Pushkinskaya)		17,808.56
7	Main entrance repairs (university building No1)		512,574
8	Window assembly repairs (dormitory No2 – 10a, Ulitsa Fridrikha Engelsa) – rooms 33, 34, 55		83,559
9	Renovations of room No324 (university building No 3 – 24 Prospekt Revolutsii)		48,851
10	Renovations of room No 101 (university building No 8 – 88 Moskovsky Prospekt)		94,477
11	Window assembly repairs (dormitory No 8 and university building No 1)		559,930
12	Renewal and repairs of electrical cable lines (maintenance department, skiing lodge and vegetable store)		157,400
13	Renovations of the ground floor lavatories (university building No 9)		743,421
14	Production, delivery and installation of a stationary rack (university building No 3)		991,648.76
15	Minor repairs of the entrance lobby (university building No 5)		451,603
16	Window assembly repairs – rooms No 319, 320 (university building No 3) and reading hall No 2 (university building No 2)		272,072
17	Insulation of the foundation exterior walls (university building No7)	370,309	

End of table 9.1

No	Work item	Source of financing	
		State-funded, thousand roubles	Extra-budgetary financing, thousand roubles
18	Minor repairs of room No61 (university building No 1)		350,316
19	Roof works at Galichia Gora nature reserve		619,161
20	Storm water collector repairs		112,111
21	Replacement of the heating system manifold (university building No 7)	509,321	
22	Minor repairs of room No 130 (university building No 6)		614,636.80
23	Roof shingle repairs (university building No 5)	266,402	
24	Renovations of the ground floor lavatories, including waterproofing replacement (university building No 6)	2,567,255.56	
25	Installation of heating meters (dormitory No 1, 2, 3, 4 and dormitory No 2 of Voronezh State University of Engineering Technologies)	931,110	
26	Minor repairs of rooms adjacent to the lobby (university building No 3)		471,950.68
27	Repair works (university building No 7)	728,754.61	
28	Renovations of the entrance (university building No 6)	280,876.57	
29	Minor repairs of the library rooms (university building No 6)		163,827.76
30	Minor repairs of room No 57 (university building No 1)		329,621.90
31	Health unit repairs (dormitory No4 – 8a Ulitsa Fridrikha Engelsa)	485,713	
32	Renovations of ground floor rooms No3–7 (university building No 2)	1,016,705	
33	Renovations of room No 213 (university building No 1)	129,990.78	
34	Window assembly repairs (university building No 3)	342,275.51	
35	Minor repairs of the 6th and 7th floor lavatories (university building No 9)		2,083,158.28
36	Renovations of the kitchen and the study space (dormitory No 7)	573,987.90	
37	Window assembly installation (dormitory No7) – 76 windows	693,248.58	
38	Renovations of rooms and utility systems (university building No7)	302,059.51	
39	Renovations of room No25 (university building No 10) and rooms No 307-2, 307-1, and No 414 (university building No 3)	193,841.92	
40	Installation of window assemblies (dormitory No 7) – 67 windows	586,541.89	
41	Replacement of flooring (room No 6)	361,039.21	
42	Installation of the fence around the campus located at Ulitsa Kholzunova	1,602,068.05	
43	Insulation of the exterior walls foundation (university building No 7)	21,605.29	
	<b>Total:</b>	<b>16,767,185.75</b>	<b>8,708,586.69</b>



In 2015, works implemented by the Facilities Administration staff amounted to 6,647.093 thousand roubles financed from extra-budgetary funds (see Tables 9.2–9.5).

Table 9.2

## PLUMBING

Site	2014 Amount, thousand roubles	2015 Amount, thousand roubles
University building No 1, 1a	97.2	13.020
University building No 2	78.4	27.827
University building No 3	56.3	52.434
University building No 4	67.1	23.733
University building No 5	68.5	57.876
University building No 6	92.4	74.248
University building No 7	56.8	68.589
University building No 8	73.5	32.775
University building No 9	92.2	23.363
University building No 10	–	20.581
Research laboratory in the Somovo settlement	–	18.653
Maintenance department	–	1.500
Botanical garden	–	2.666
<b>Total</b>	<b>682.4</b>	<b>417.265</b>

Table 9.3

## ELECTRICAL WORKS

Site	2014 Amount, thousand roubles	2015 Amount, thousand roubles
University building No 1, 1a	680	1,050
University building No 2	88.4	140
University building No 3	120	160
University building No 4	125	165
University building No 5	145	100
University building No 6	130	55
University building No 7	90	95
University building No 8	180	30
University building No 9	20	25
University building No 10	85	140
Other sites	–	60
<b>Total</b>	<b>1,663.4</b>	<b>2,020</b>

Table 9.4

## VENTILATION WORKS

Site	2014 Amount, thousand roubles	2015 Amount, thousand roubles
University building No 1	186	21.3
University building No 2	50	–
University building No 3	73	5
University building No 4	–	4
University building No 5	–	10
University building No 5a	–	77
University building No 6	–	82
University building No 7	35	–
<b>Total</b>	<b>344</b>	<b>199.3</b>

Table 9.5

## GENERAL CONSTRUCTION WORK

Site	2014 Amount, thousand roubles	2015 Amount, thousand roubles
University building No1, 1a	2,321	987
University building No 2	335	175.2
University building No 3	238	283.9
University building No 4	392	45.5
University building No 5	621	382.2
University building No 6	151	360.7
University building No 7	41	–
University building No 8	89	–
University building No 9	139	–
Central heat supply station, maintenance department	152	–
Dormitory No 1	–	76.2
Printing house	–	27.3
<b>Total</b>	<b>4,479</b>	<b>2,338</b>



A large amount of work was performed with regard to repairing boiler-house and heating system equipment in the university buildings. To meet the requirements of supervising bodies, flushing and pressure testing and repairs of the heating systems were implemented and corresponding certificates of readiness were prepared and signed. These works required 1,584.495 thousand roubles of extra-budgetary funding.

The works performed by the maintenance department of the Facilities Administration included: production and installation of window sills, door and window units, mouldings, tables, metallic racks, containers for solid domestic waste, glass cutting, and pattern cutting of laminated particle boards. The cost of the purchased materials required for these works amounted to 83,033 roubles of extra-budgetary funding.

In 2015, 85,123.2 thousand roubles were spent on utility bills. The savings over 2014 were 3,697.5 thousand roubles.

### 9.3. CONSTRUCTION AND MAINTENANCE FINANCING BY SOURCE OF FUNDING IN COMPARISON WITH 2014

Figure 9.1

#### MAINTENANCE FINANCING

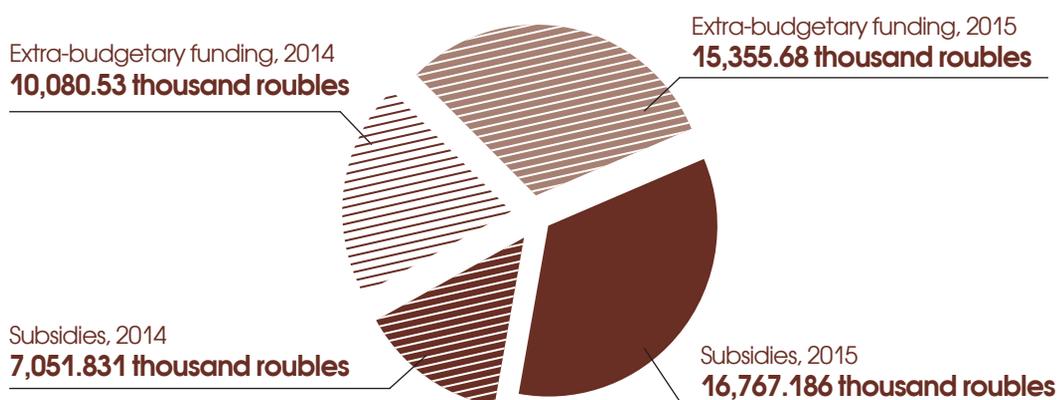




Figure 9.2

CONSTRUCTION FINANCING

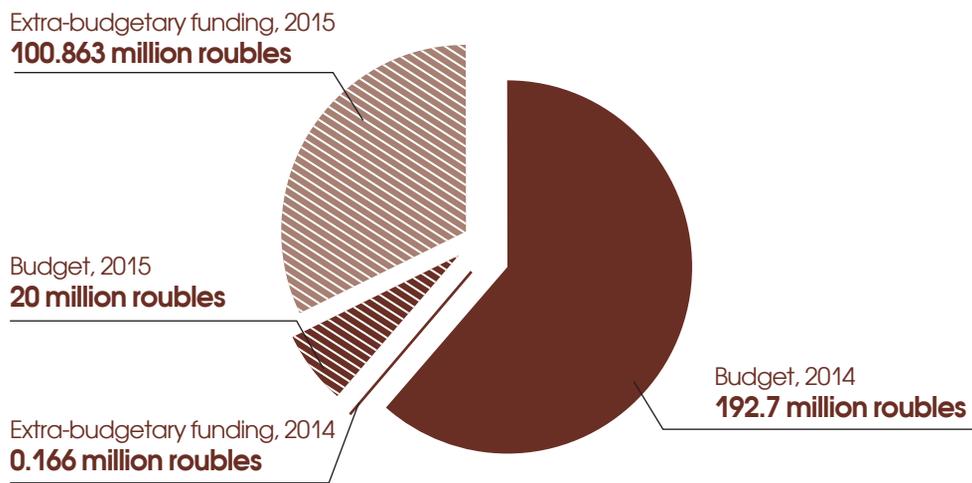
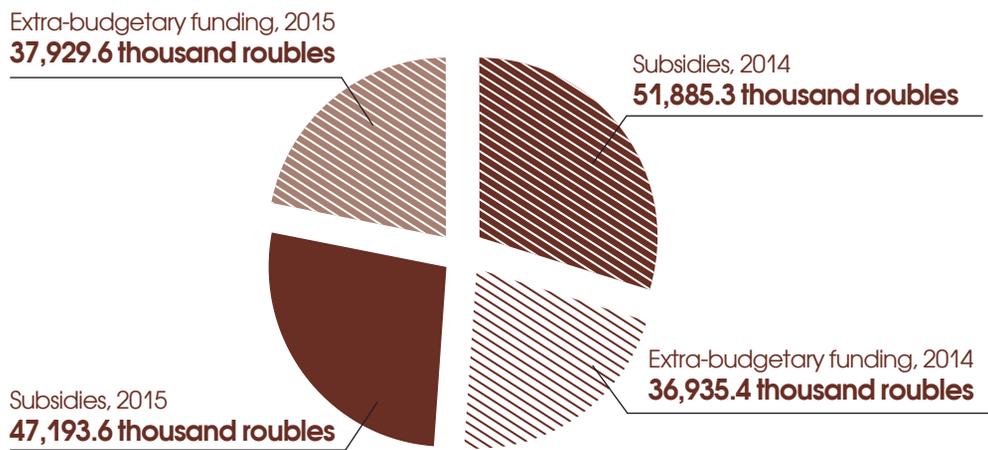
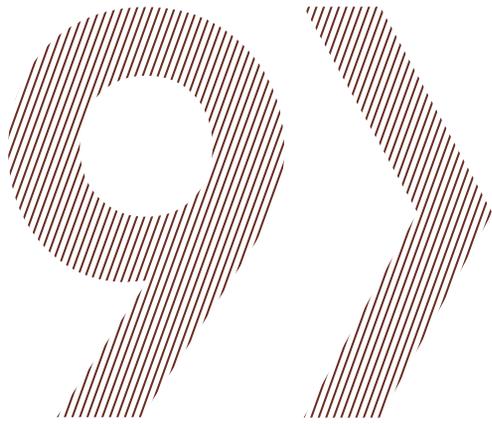


Figure 9.3

UTILITY COSTS FINANCING





## 9.4. OVERVIEW OF PROMISING CONSTRUCTION PROJECTS IN PROCESS IN 2015

VSU conducted the following promising construction projects:

- The project “Venevitinovo Dormitory” was reviewed and its environmental impact was assessed.
- “Mounting and Commissioning Works to Replace the Basement Boiler House Located at the address: 10 Ulitsa Fridrikha Engelsa, Voronezh” was conducted.
- Expert evidence was received proving that parcel of land No 11 (42a Ulitsa Kholzunova, Voronezh) has objects or features of historical and cultural heritage significance.
- The remains of dead servicemen were reburied in the process of preparing land for construction of the Research Information Technologies Centre at lot No 11 (42a Ulitsa Kholzunova, Voronezh).
- Multifunctional sports ground located at 42 Ulitsa Kholzunova was conducted.
- Design documentation was prepared for state expert review of the Research Information Technologies Centre.
- “Storage Facility for Training Military Equipment” was developed and constructed at the address: 24 Prospekt Revolutsii, Voronezh.
- A fence around campus at Ulitsa Kholzunova was installed.
- Mounting and commissioning works to replace the basement boiler house (10k Ulitsa Fridrikha Engelsa, Voronezh) were conducted.
- A fence around the territory of the Galichia Gora nature reserve was installed.
- A remote VSU site (the Galichia Gora nature reserve) was supplied with gas.
- Road renovation at the Venevitinovo complex was conducted.



## 9.5. OVERVIEW OF VSU GARAGE OPERATIONS IN 2015

The garage staff were involved in a many activities:

- They supported student summer practices in Voronezh, Lipetsk, Kursk, Krasnodar Regions, the Republic of Crimea, and the Republic of Adygea.
- 903 thousand people were transported.
- Cargo turnover amounted to 74.8 thousand tonnes.
- Total kilometres amounted to 3,806.1 km.

In 2015, fuel consumption was as follows:

- Petrol A-95 – 46,021 litres.
- Petrol A-92 – 62,581 litres.
- Petrol A-80 – 12,888 litres.
- Diesel fuel – 24,653 litres.

The following vehicles were accepted into service:

- KIA Optima automobile.
- Higer bus.
- Volkswagen Luidor.

Total capacity – 64 passengers.

Environmental compliance events were carried out.

## 9.6. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2015

- The VSU swimming pool was constructed as a part of the federal targeted investment programme “‘Edinaya Rossia’ Party – 500 Swimming Pools”.
- The energy saving and energy efficiency programme for buildings and facilities was continued.
- The programme for creating an accessible environment for physically challenged people was continued.
- Extensive major repairs of buildings were performed.
- Engineering Services of the Facilities Administration provided the essential services for buildings and facilities.





# MILITARY EDUCATION AT VSU





## MILITARY EDUCATION AT VSU



Colonel **Alexander Scherbakov**,  
Dean of the Faculty of Military  
Education

### 10.1. MAIN OBJECTIVES IN THE FIELD OF MILITARY EDUCATION IN 2015:

- Implementation of military education programmes at the VSU Military Training Centre and training commissioned officers for further military service under contract.
- Implementation of educational programmes in military occupational specialities for reserve officers at the Reserve Officer Training Department.
- Implementation of educational programmes in military occupational specialities for reserve soldiers and sergeants at the Reserve Officer Training Department.
- Participation in patriotic educational campaigns dedicated to the 70th anniversary of the Victory in the Great Patriotic War.
- Provision of military career guidance to the youth.

### MAIN OBJECTIVES IN THE FIELD OF TRAINING STUDENTS AT THE FACULTY OF MILITARY EDUCATION:

- Implementation of military training programmes for the Faculty students and organisation of the training period ending with the Military Oath Ceremony for the fourth-year students of the Reserve Officer Training Department.
- Organisation of the final assessment for the students who have completed the training period.
- Organisation of the assessment of graduates to affiliate them to the commissioned staff. Preparation of the Orders of the Ministry of Defence of the Russian Federation to allot service numbers to the graduates and award them the military rank of reserve lieutenant.



### MAIN OBJECTIVES IN THE FIELD OF NEW ADMISSION TO THE MILITARY TRAINING CENTER AND THE RESERVE OFFICER TRAINING DEPARTMENT:

- Organisation of PR-campaigns to attract University entrants to the Military Training Centre and University students to the Reserve Officer Training Department.
- Revision of the educational process documentation at the Military Training Centre and the Reserve Officer Training Department with its further approval by partners.
- Organisation of the admission campaign at the Military Training Centre and the Reserve Officer Training Department.
- Matriculation of the University entrants fitting the requirements of the Military Training Centre and the Reserve Officer Training Department.

## 10.2. INFORMATION ABOUT THE MILITARY OCCUPATIONAL SPECIALITIES IMPLEMENTED AT THE FACULTY OF MILITARY EDUCATION IN 2015

Table 10.1

INFORMATION ABOUT THE MILITARY OCCUPATIONAL SPECIALITIES IMPLEMENTED AT THE FACULTY OF MILITARY EDUCATION IN 2015

No	Title of the military occupational speciality	Number of students	
		Military Training Centre	Reserve Officer Training Department
1	Linguistic Support of Military Activities	45	–
2	Anti-Tank Artillery Warfare	66	90
3	Anti-Tank Guided Missile (ATGM) Warfare	70	131
4	Mortar Warfare	–	13

# 10

## 10.3. MILITARY TRAINING CENTER REPORT

The students were admitted to the Centre by the order of the Rector after they had passed a military medical examination, psychological tests, a fitness level examination, and had signed a contract with the University. The list of the military occupational specialities is given in Table 10.2.

Table 10.2

### ADMISSION TO THE MILITARY TRAINING CENTER IN 2015

No	Title of the military occupational speciality	Programme (speciality)	Number of students
1	Linguistic Support of Military Activities	45.05.01 – Translation and Translation Studies	10
2	Anti-Tank Guided Missile (ATGM) Warfare	01.05.01 – Fundamental Mathematics and Mechanics	23
3	Anti-Tank Artillery Warfare	01.05.01 – Fundamental Mathematics and Mechanics	28
Total:			61



## 10.4. RESERVE OFFICER TRAINING DEPARTMENT REPORT

76 students completed the training period and gave the Military Oath. In 2015, 143 graduates of the University were allotted service numbers and awarded the military rank of reserve officer by the Order of the Ministry of Defence of the Russian Federation. 391 students submitted their applications to the Reserve Officer Training Department in the reporting period. The number of admitted students amounted to 182 (see Table 10.3).

Table 10.3

### PROGRAMMES IMPLEMENTED AT THE RESERVE OFFICER TRAINING DEPARTMENT

No	Title of the military occupational speciality	Number of students		
		2nd year	3rd year	4th year
1	Anti-Tank Artillery Warfare	26	23	34
2	Anti-Tank Guided Missile (ATGM) Warfare	46	47	41
3	Mortar Warfare	19	13	–
4	Anti-Tank Artillery Commander	17	23	–
5	Anti-Tank Artillery Crewman	11	41	–
6	ATGM Vehicle Commander	22	25	–
7	ATGM Vehicle Operator	33	44	–
8	Mortar Crewman	4	–	–
9	Mortar Gun-Layer	3	–	–

# 10

## **10.5. EVENTS AND MEETINGS HELD BY THE VSU ADMINISTRATION AND THE FACULTY OF MILITARY EDUCATION IN ORDER TO DEVELOP THE VSU MILITARY TRAINING SYSTEM**

- Participation in the International Military Technical Forum “ARMY-2015”.
- Participation in the briefing with the Director of the Military Education Directorate, the Deputy Director of the Main Personnel Work Directorate of the Ministry of Defence of the Russian Federation, Major General Ye. V. Kuchinskiy. The briefing was devoted to the following topic: “Military Education in the System of Training High-Qualified Personnel for the Needs of the Ministry of Defence of the Russian Federation”.
- Participation in the briefing “The Role of the Research Squadron at the Military Educational Institution in Solving Military Technical Problems” within the session “Military and Character Training”.
- Participation in the development and implementation of the system aimed at selecting university students to study within military training programmes for sergeants (top sergeants) and soldiers (seamen).

In 2015, the University organised a propaganda campaign in accordance with the Order of the President of the Russian Federation dated 17 April 2013, No Pr-864 “On the Establishment of Research Squadrons in the Armed Forces of the Russian Federation” and the Order of the Minister of Defence of the Russian Federation dated 31 December 2014 “On the Establishment of the Research Squadron in Tambov in the Interests of the Directorate of the Chief of Electronic Warfare Troops.” As a result, candidates were selected for further compulsory military service in the research squadron at the Multiservice Centre for Training and Combat Employment of Electronic Warfare Troops in Tambov.



## 10.6. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2015

A number of events were organised to celebrate the 70th anniversary of the Victory in the Great Patriotic War.

The Guard of the Standard (honour guard) was established. Now it participates in ceremonial events held at the University.

A clear system of military education was developed for the non-military university. It includes the following stages:

- 1.5 years of studies at the Reserve Officer Training Department for reserve soldiers.
- 2 years of studies at the Reserve Officer Training Department for reserve sergeants.
- 2.5 years of studies at the Reserve Officer Training Department for reserve officers.
- 5 years of studies at the Military Training Centre for commissioned officers.

VSU became the first university in the region to carry out scheduled training for reserve soldiers and sergeants.

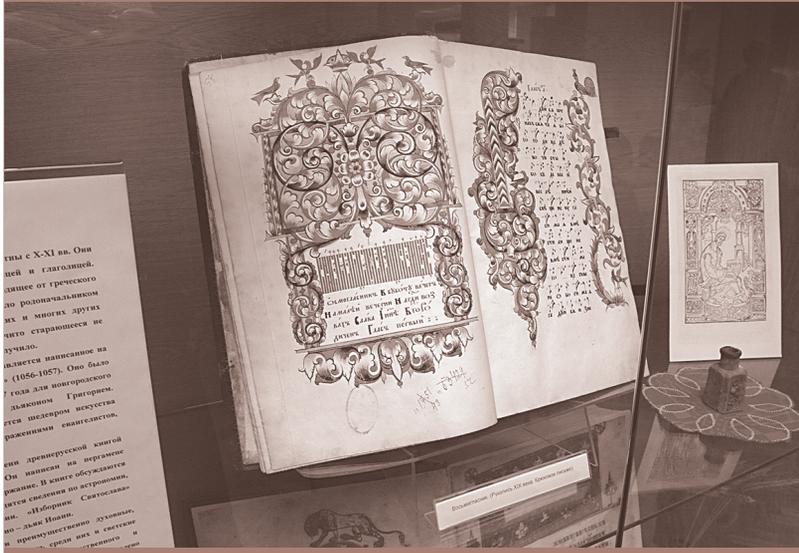
A new military occupational speciality was opened at the Reserve Officer Training Department. An admission campaign was held for the reserve officer training programmes.

The Military Training Centre continued to work and be developed. The admission quotas were approved and allocated for the training of commissioned officers within the following specialities:

- War Journalism.
- Translation and Translation Studies.
- Economic Security.
- Fundamental Mathematics and Mechanics.
- Information Analysis Security Systems.
- Computer Security.

Documentation was elaborated for the newly introduced military occupational specialities. The documents include:

- The organisational structure of the Military Training Centre.
- Qualification requirements for the graduates within each military occupational speciality.
- An overall calculation of academic hours for each educational programme and their distribution.
- Curricula, course, practice, training period, and final assessment syllabuses within the military training course.





## **VSU REGIONAL SCIENTIFIC LIBRARY**





## VSU REGIONAL SCIENTIFIC LIBRARY



**Arkady Minakov,**  
Head of the VSU Regional  
Scientific Library

The Regional Scientific Library of Voronezh State University is the largest university library in the Voronezh Region and is a regional methodology centre for libraries of state higher education institutions in the Central Black Earth Region. It provides methodological assistance and consultations to regional university libraries and organises advanced training courses for their staff members. The library renders its services to various groups of subscribers. It manages a universal multi-purpose collection that houses both Russian and foreign books and documents, diligently preserves this collection for the future generations, and provides access to local and remote information resources on the Internet. The list of services can be found at the library website [www.lib.vsu.ru](http://www.lib.vsu.ru).

The services are rendered in full compliance with the ISO. The library was granted an international quality certificate for its services.

As of 1 November 2015, the unified library collection of Voronezh State University comprised 3,209,438 books and documents in various languages and formats. The collection is completed with all the sources necessary for all educational and scientific programmes implemented at VSU according to the Thematic and Typological Acquisition Plan (URL: <https://lib.vsu.ru/?p=3&t=8>). The study guides fit the approved requirements for the minimal number of available sources required to ensure an efficient educational process as well as the requirements set in the State Educational Standards. The library also subscribes to relevant periodicals within the educational and scientific scope of the University.

In 2015, the library collection was enriched by 44,650 items. The acquisition expenses amounted to 13,569,634 roubles 46 kopecks. On average, the aggregate collection contained about 122 items per subscriber.



The general ratio of the collection increase was 1.4. The ratio of increase in study guides was two. The majority of items in the collection are books, journals, scientific and educational literature (see Figures 11.1–11.4).

Figure 11.1

COLLECTION STRUCTURE ACCORDING TO THE TYPES OF ITEMS  
(3,209,438 items as of 1 November 2015)

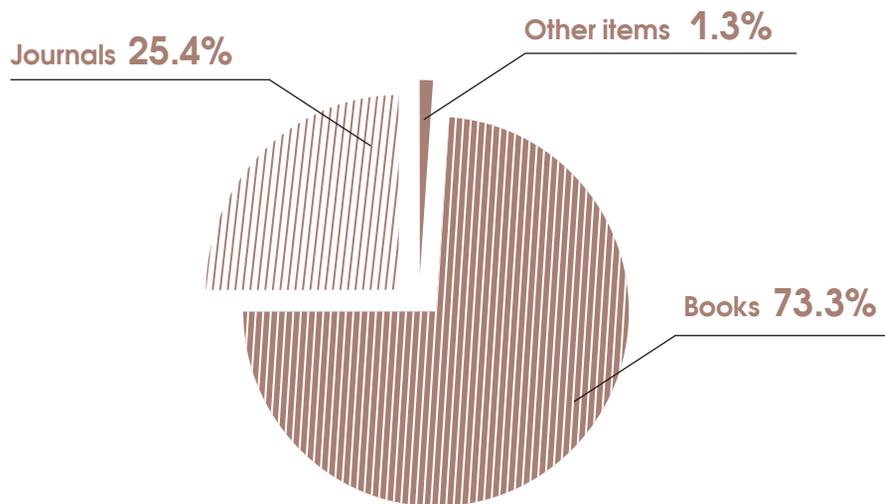


Figure 11.2

COLLECTION STRUCTURE ACCORDING TO THE PURPOSE OF ITEMS  
(3,209,438 items as of 1 November 2015)

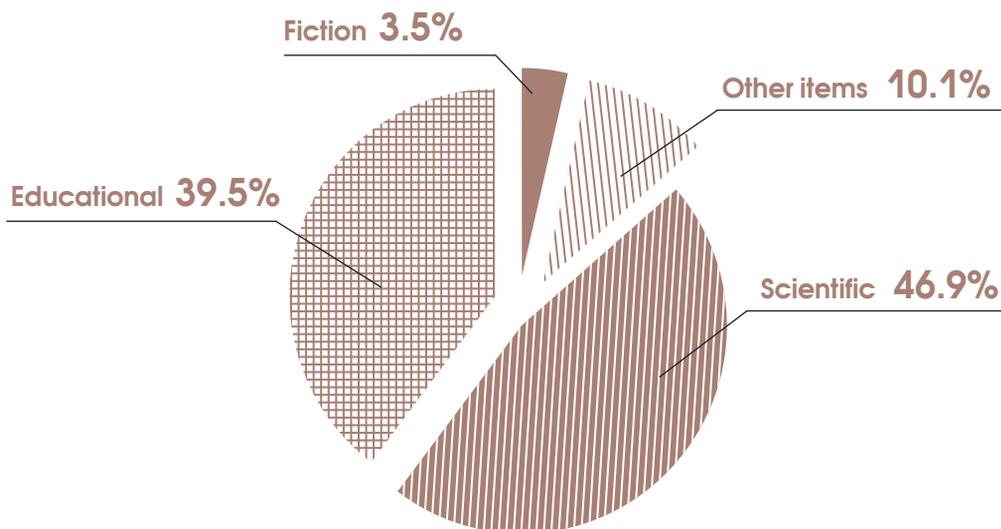




Figure 11.3

### NUMBER OF NEW ITEMS IN THE COLLECTION

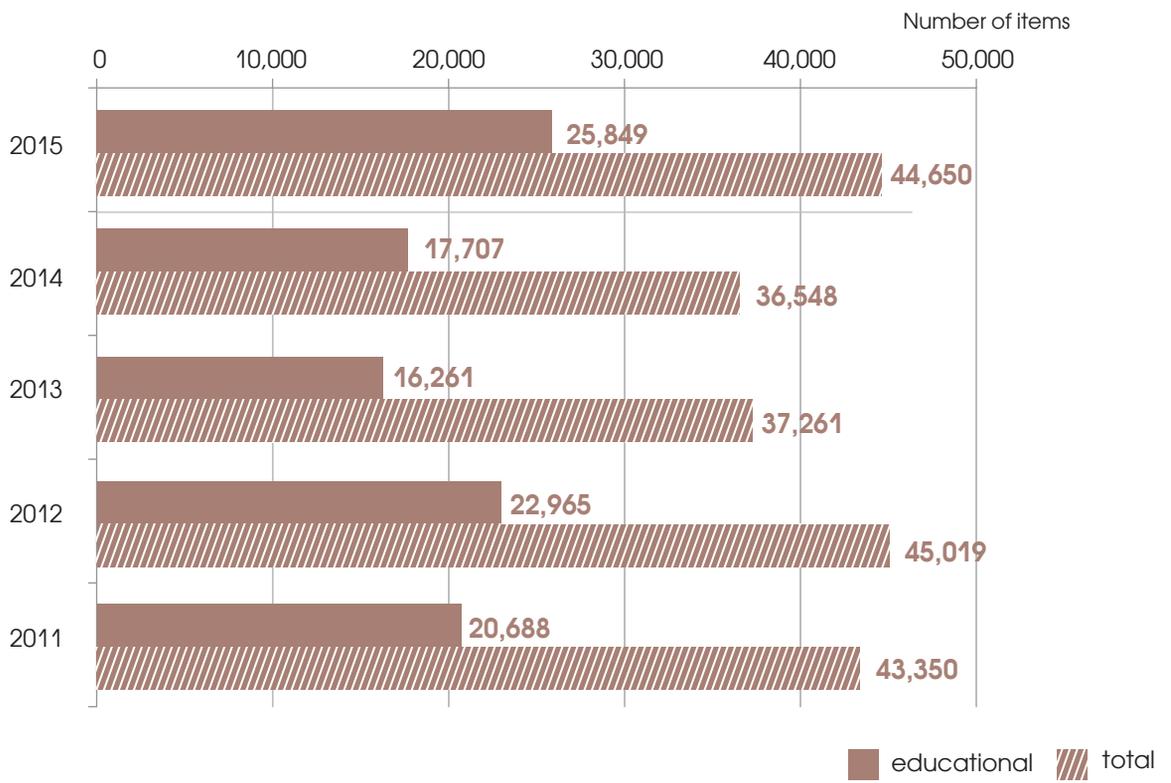
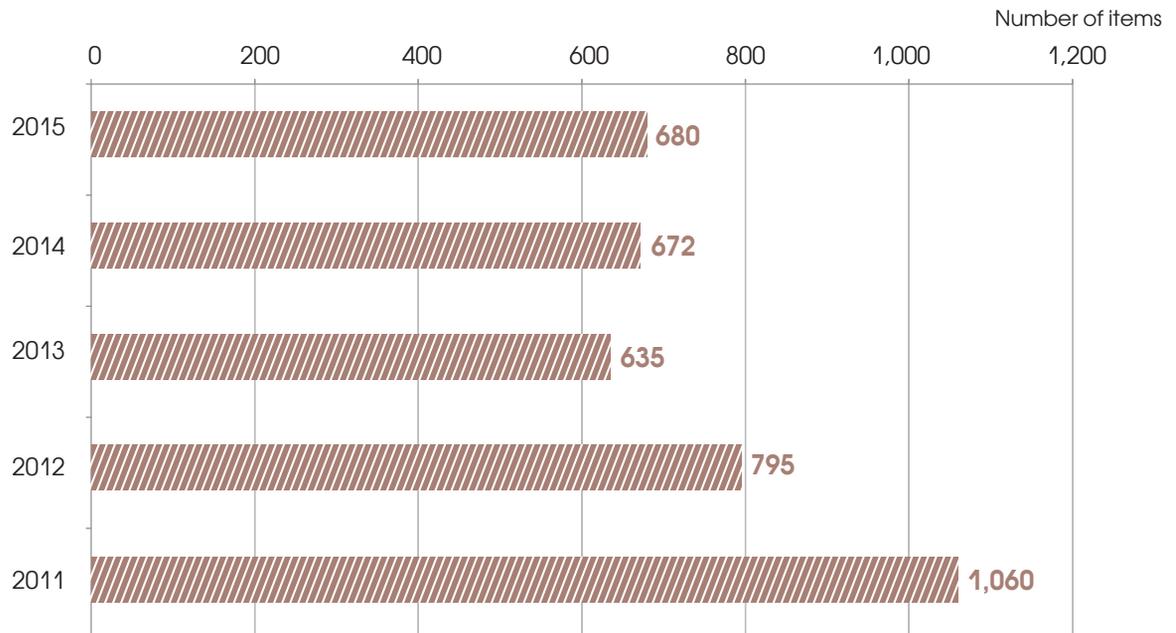


Figure 11.4

## NUMBER OF NEW SUBSCRIPTION PERIODICALS IN THE COLLECTION



The library houses a unique collection of rare documents, which comprises about 100,000 items. It consists of Russian and foreign editions of the XVI–XXI centuries represented by different manuscripts, books, and periodicals.

The library actively collaborates with other libraries in Russia and abroad. It also exchanges books with 55 organisations in 22 countries.

In 2015, library subscribers were able to gain remote access to 543,703 items. To achieve this, the library bought electronic abstract journals and provided access to foreign scientific journals including the databases of Oxford University, Springer Publishing Company, and Cambridge University. Besides, the library subscribers were able to use such e-library systems as “University Library Online”, “Student Assist”, “Lan Publishing”, and “Mylibrary”. The library continues to manage the VSU collection at the national digital resource “RUKONT” (URL: <http://rukont.ru>) as well as the full-text database “VSU E-Library”.

The library maintains its e-catalogue, which provides information about the items in the collection, and can be found on the library website. As of 1 December 2015, the catalogue contained 934,045 entries.

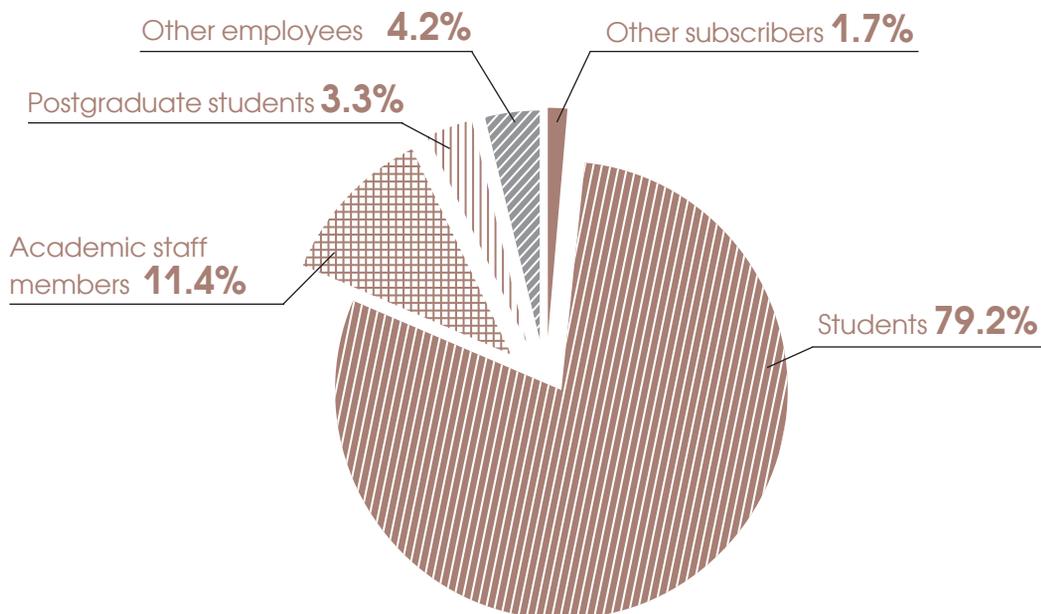


To conserve the University's scientific heritage, the library keeps an electronic index of the works published by VSU staff members. As of 1 December 2015, the index included 176,126 entries. To improve the University's academic ranking, the library constantly updates information about the publications by VSU staff members and uploads it to the eLIBRARY database. As of 28 December 2015, the University was ranked the ninth among Russian universities by such an essential bibliometric parameter as the number of publications.

In 2015, there were 26,228 entries in the unified registration catalogue of the library subscribers (see Figure 11.5). Altogether, the library provided its services to 59,685 subscribers. 116 subscribers were served remotely via their personal accounts. The number of requests to the library website amounted to 110,200.

Figure 11.5

COMPOSITION OF THE LIBRARY SUBSCRIBERS IN 2015  
(A total of 26,228 subscribers)





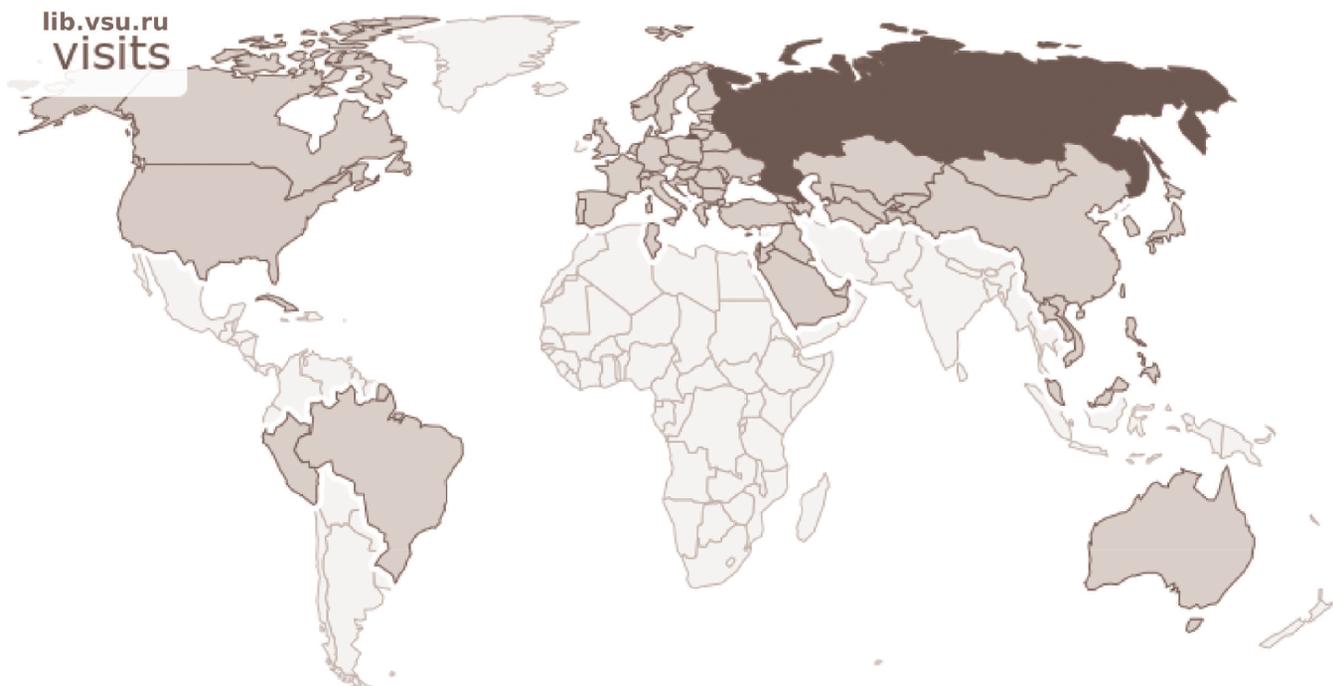
In 2015, the library subscribers had access to 637,919 items, whereas the number of items read online amounted to 36,946.

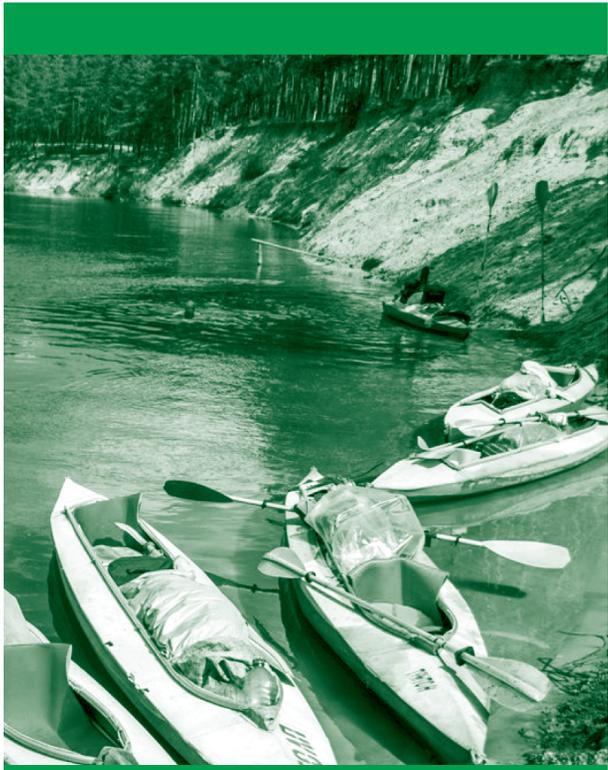
In 2015, the cloud service for the automation of library services and archive-keeping "ABAD" won an award in the regional contest "Golden Lion" and became a finalist in another contest for innovative projects. The project was developed by the library in cooperation with the University Internet Centre (UIC) and the VSU Innovations Administration.

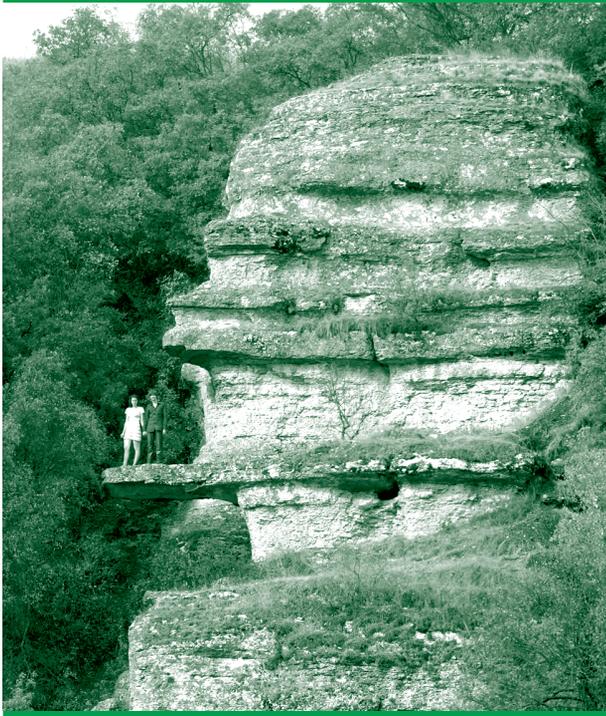
The library website traffic is thoroughly analysed by means of the statistics module "Piwik", which is a free software programme. Figure 11.6 shows the countries with the requests to the catalogue of the VSU Regional Scientific Library. Such countries are highlighted with dark and light brown.

Figure 11.6

#### REQUESTS TO THE LIBRARY WEBSITE IN 2015 BY COUNTRY

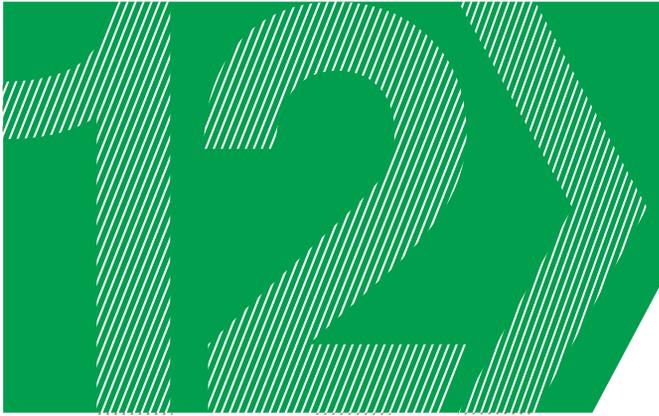






# “GALICHYAGORA” NATURE RESERVE





## “GALICHYA GORA” NATURE RESERVE

### PROGRESS REPORT FOR 2015



**N.YA. Skolznev,**  
Head of the reserve  
“Galichya Gora”

The “Galichya Gora” reserve was founded in 1925 on the territory of what is today the Lipetsk Region for conservation and studying the **non-native** flora of the area. In 1936, the reserve was handed over to Voronezh State University.

It now comprises seven separate sectors of 11 to 96 hectares located in four administrative districts of the Lipetsk Region. The total area of the reserve is 234.4 hectares. **“Galichya Gora” is included in the Guinness Book of World Records as the smallest reserve in the world.** The protected territory is the centre of the Upper Don relict region with unique landscapes, rich flora, and entomofauna.

The reserve is the leading research, educational, and conservation centre of Voronezh State University in the Lipetsk Region. High-profile specialists in botany, zoology, and ecology work at the reserve research centre.

The collection fund contains internationally well-known exhibits, such as the Herbarium of the Middle Russian Hills and Contiguous Territories (42.63 thousand items), the Collection of Invertebrate Animals (298 thousand items), and the Mycological Collection (4.64 thousand items). There are also a weather station and a scientific library.

In 1990, a nursery was created for carnivorous birds that were registered in the Red Book of the Russian Federation. About 400 eyas of saker falcons were released into the wild. Most of the eyas are bought by falconry lovers from Russia and abroad. The reserve also functions as a rehabilitation centre. The old Russian tradition of falconry is gradually being revived.

The reserve was granted a badge of honour for serving Voronezh State University.



"Galichya Gora" is the only nature reserve in the Russian education and research system.

Last year the reserve staff members continued to monitor the state and dynamics of the natural habitats. Such monitoring has been regularly carried out since 1974. The 43rd volume of "Letopis prirody" was published. The general research topic "Scientific Basis and Methods for Conserving the Variety of Landscapes and Ecosystems of the Specially Protected Territories in the Upper Don Region" was divided into 10 subtopics covering the main biota taxons of the area: fungi, plants, invertebrate, and vertebrate animals.

Research was completed into the topic "Postpyrogenic Development of the Natural Complexes at the "Galichya Gora" Reserve" conducted under the state order since 2012.

The collection fund of the reserve has been enriched.

As a result of the research conducted in 2015, our scientists published the following works:

- 3 monographs (86.5 printed sheets).
- 271 scientific articles, of which 4 were published in reviewed Russian journals, 12 in the proceedings of conferences held in Russia, 4 in the proceedings of international conferences, and 251 in other Russian journals.

Our researchers took part in 10 national and international conferences with 22 reports.

In 2015, experts affiliated with the Russian Geographical Society, the Russian Birds Conservation Union, the Russian Entomological Society, the All-Russian Research Institute of Medicinal and Aromatic Plants, and various Russian universities and state reserves, visited "Galichya Gora" in order to perform both individual and collaborative research.

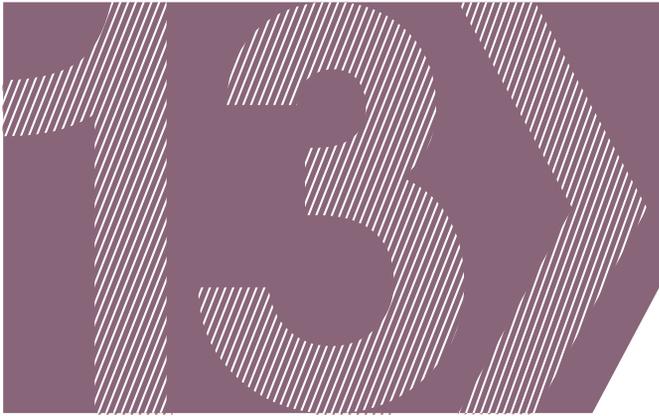
Finally, the following works were performed at the site: the garages were repaired, the roof of the residence building was replaced with a new one, boiler-houses were built in order to transfer nine flats and the administrative and laboratory buildings to work with the natural gas heating system, and gas equipment was installed.





## VSU CENTRE FOR INFORMATION AND PR POLICY

131



## VSU CENTRE FOR INFORMATION AND PR POLICY



**Anna Kondratova,**  
Head of the Centre  
for Information and PR policy

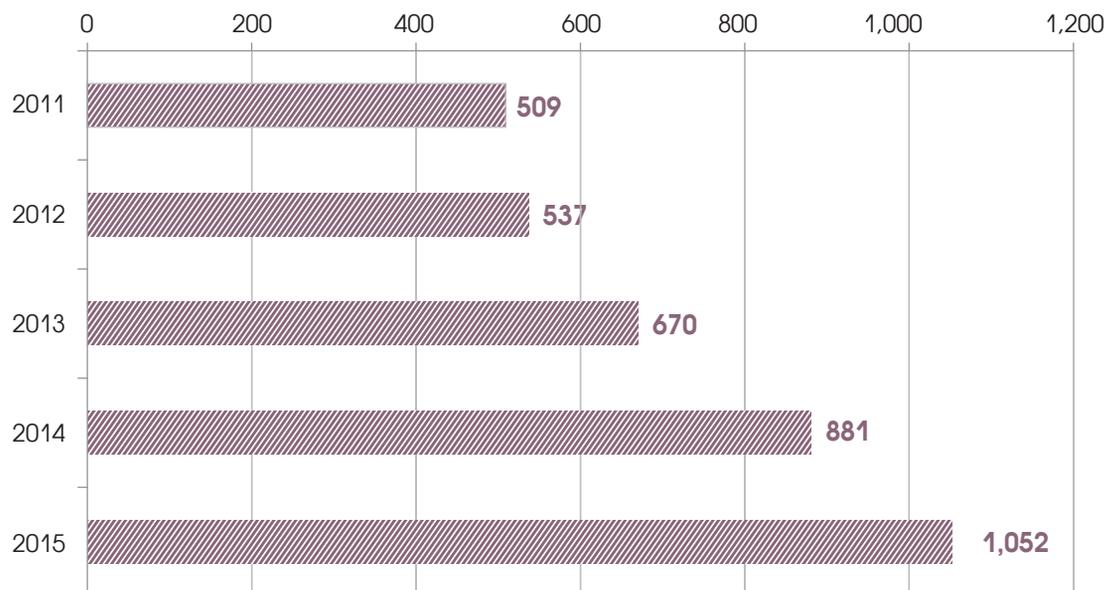
### 13.1. VSU OFFICIAL WEBSITE

The Press Service of VSU's Centre for Information and PR Policy provides extensive coverage of the university's activities in the media and on the university's official website (URL: [www.vsu.ru](http://www.vsu.ru)). The news feed is updated daily with stories about the university's events and various achievements of the students and academic staff. The number of news reports on VSU's official website becomes larger every year.

In 2015, the University website published 1,052 news stories, which is significantly greater than the figures of previous years: in 2014 – 881 news stories were published and in 2013 – 670 (See Figure 13.1).

Figure 13.1

#### NEWS PUBLISHED ON WWW.VSU.RU





There is also a positive dynamic in the number of news stories per month. In 2014, the following months were the most productive: March (94 news stories), April (95 news stories), October (105 news stories), and December (103 news stories). In 2015, several months had over 100 news stories:

- March – 117 news stories.
- April – 127 news stories.
- May – 107 news stories.
- October – 116 news stories.
- November – 116 news stories.
- December – 120 news stories.

In 2015, the number of news stories about the university's research and innovation activities and international activities has increased.

Some news stories published on the official website are also displayed on the English version of the Voronezh State University website (URL: <http://www.vsu.ru/english/index.html>).

Since 2015, the news feed has had information analysis content regarding innovation projects by researchers of Voronezh State University. As of today, the archive includes 37 articles. Such material attracts a lot of interest from regional and federal media, and, thus, articles about the projects of VSU researchers raise awareness of the research and innovation activities of the university.

A new section – “Ideas and Experience” – was introduced to the news feed. It provides interviews with outstanding graduates of the university. Those interviewed talk about their studies at Voronezh State University, their career, and the skills and knowledge required for successful employment. They also offer their recipes for success. Another innovative VSU news feed displays notices about significant dates. These have been published since October 2015. These notifications cover national and international holidays commemorated by the university.

The web staff of the university's Internet Centre have improved the news feed design – now every story has a preview image and a lead. As a result, the news feed has become more visual and easier to navigate.



## 13.2. VORONEZH STATE UNIVERSITY NEWSPAPER

27 editions, including special editions, of the Voronezh State University newspaper were issued in 2015.

Most issues were published by VSU's Publishing House. The format of the newspapers was changed. Now it is published in magazine format (A4 20+) and in full colour. The newspaper production cycle uses two types of production: scheduled editions are published by means of offset printing and special editions with the help of digital equipment.

The paper contains mainly official information and brief reports on the most urgent events at the University. Regular publication of reviews was started and a new "Feedback" section was started. The long-term cooperation with Voronezh cartoonist I. Anchukov has been continued. The artist submits cartoons on commission from the editorial board. The editorial board also carried out fieldwork. For example, the editorial staff went on one-day business trips to Borisoglebsk and the Venevitinovo sport and fitness complex. The editorial board recommenced publishing watchdog journalism articles. The issues discussed in the paper found a broad response among the readers and the VSU administration. Cooperation with freelance writers was extended significantly. The paper continued to publish problematic questions for open discussion, articles about outstanding people and interesting events, and reports about the work of university lecturers and researchers.

The list of vacancies for academic staff was published regularly, including a number of special issues.

Traditionally, the newspaper includes the following items:

- The English-language supplement "Never Before".
- A special issue for prospective students published prior the admission campaign 2015. It provided detailed information about the university and the admission procedure. It was distributed among prospective students of all VSU's faculties during the campaign.
- The newspaper was delivered to all the university buildings.

In 2015, the project – "UniverCity", a newspaper supplement dedicated to student life was continued. The editorial board of the supplement is comprised solely of VSU undergraduate and postgraduate students of various faculties. While working as board members the students acquire basic journalism skills. According to the founders of the project, its main goal is to create at VSU an integrated media space and a platform for the training of students of the Faculty of Journalism and the Faculty of Philology of VSU. The project is open to all interested people: journalists, editors, proofreaders, photographers, and designers.

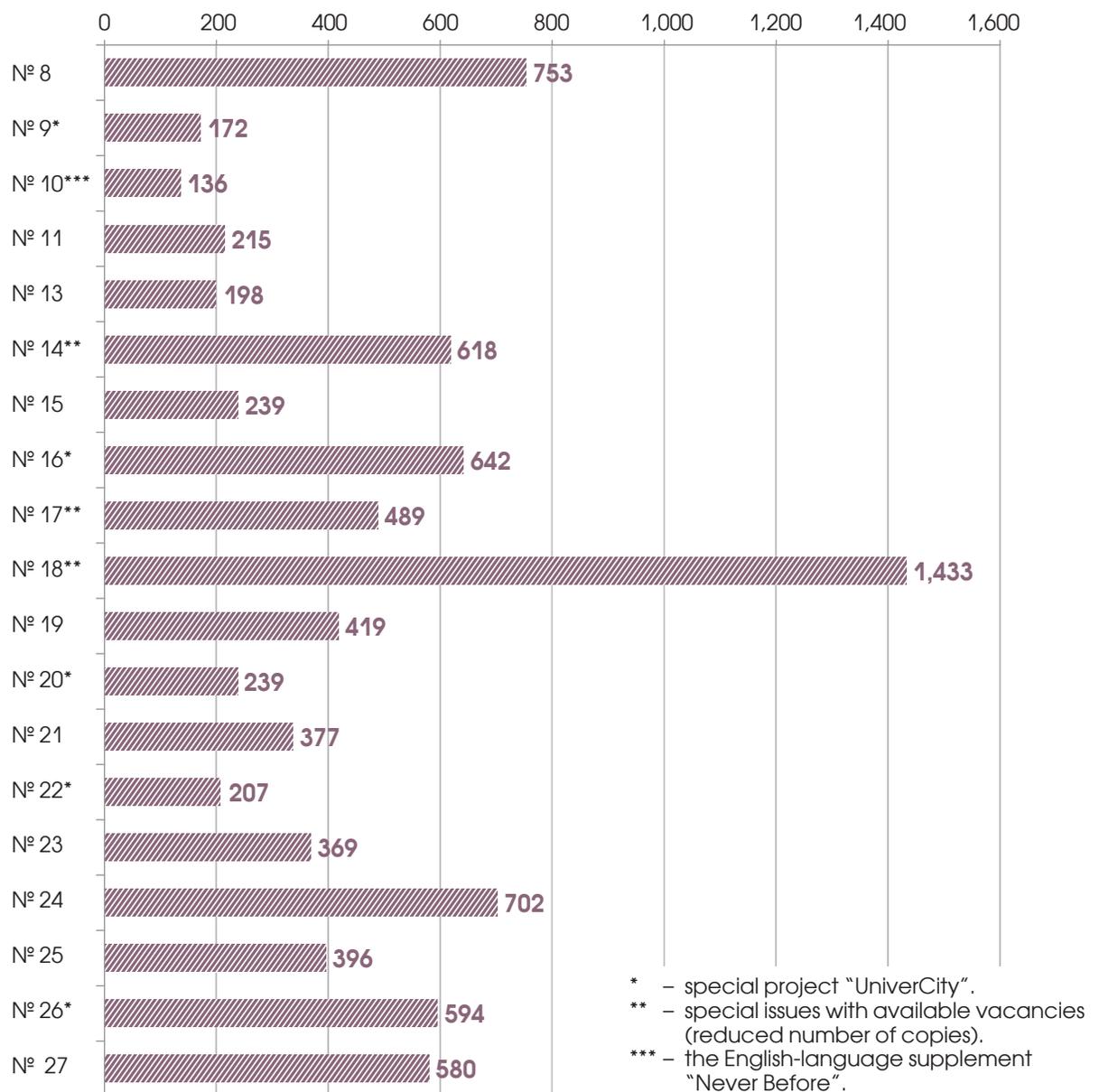
Between March and May 2015, the "UniverCity" editorial board held Spring Media School – an educational project consisting of 8 lectures and workshops on journalism. The audience of the school was about 500 people: students, schoolchildren, bloggers, and young journalists. Among the speakers of the school were lecturers of the Faculty of Journalism of VSU and experienced journalists and designers from Voronezh and Moscow.



Since 2011, electronic versions of the “Voronezh university” newspaper have been published on the university official website (URL: <http://www.vsu.ru/russian/periodicals/npvu.html>). At the request of the editorial board, the staff of the university’s Internet Centre calculated the number of times the PDF newspaper was downloaded. Since the new format was introduced (between 31 March 2015 and 31 January 2016) the number of downloads was as follows (See Figure 13.2).

Figure 13.2

NUMBER OF DOWNLOADS OF THE ELECTRONIC VERSION OF THE “VORONEZH UNIVERSITY” NEWSPAPER (Between 31 March 2015 and 31 January 2016)



The data above show an intense interest in special issues with available vacancies that were published with a limited circulation of 200–250 copies. The shortage of printed versions was compensated for by the internet version of the newspaper. The data highlighted the need to increase the planned number of physical copies of issues that included vacancies.



### 13.3. SOCIAL NETWORKS

Social networks have become a popular trend recently. It is a convenient and accessible way to exchange and receive information. For a university, it is a wonderful instrument to attract the attention of students and prospective students to its life and activities. Well-known politicians, state institutions, governmental authorities, including the Ministry of Education and Science of the Russian Federation, and leading Russian and international universities have accounts on social networks. Voronezh State University has accounts on social networks such as VKontakte, Instagram, Facebook, Twitter, YouTube, and LiveJournal. The Department for the Monitoring and Use of New Mass Communication Technologies of the Centre for Information and PR Policy is responsible for maintaining official public groups and for communications with the users of social networks.

#### **VKontakte**

(<https://vk.com/vsumain>; [https://vk.com/abitur\\_vsu](https://vk.com/abitur_vsu))

In the period between January 2015 and January 2016, the number of subscribers increased by 2.5 thousand. In January 2016, the number of the "VSU" group subscribers (<https://vk.com/vsumain>) reached 14,052 users; the number of subscribers of the group "Prospective students keeping in touch with VSU" ([https://vk.com/abitur\\_vsu](https://vk.com/abitur_vsu)) was 9,528 users.

The group administrators make up to 10 posts daily in the main sections – Research and Education. The page also duplicates information from the VSU official website. Additionally, memes, puzzles, and quizzes are published to attract attention of the student community.

Since 2015, the VSU group has posted photo reports of university events.

#### **Facebook**

(<https://www.facebook.com/vsumain>)

In January 2016, the number of the "VSU" group subscribers on Facebook was 762 people. The group administrators publish up to five posts daily in the main sections – Research and Education and news stories from the VSU official website.



## Instagram

(<http://instagram.com/vsumain#>)

In February 2016, the number of subscribers was 1,280 people, which was a 660 increase in subscribers from February 2014. The administrators publish up to seven posts every month (photos and photo collages) about cultural events, festivals, and conferences at VSU. In February 2016, total number of posts on this social network reached 479.

## Twitter

(<https://twitter.com/vsumain>)

The university has had a Twitter account for 4 years. About 21,000 tweets have been made since then. The administrators publish about 18 tweets a day and major university events are broadcast on a regular basis. The number of subscribers is over 2,000.

Additionally, Voronezh State University has an English language version of its official Twitter account (<https://twitter.com/vsumainE>) that includes news stories from the English language version of the VSU official website, as well as English posts about education, economics, and culture in Russia and worldwide.

## VSU YouTube channel

(<http://www.youtube.com/user/VSUPRESS?feature=watch>)

During 2015, the staff of the Infrastructure Performance and Problem Solution Administration made over 50 news videos. Every month about four new videos are uploaded to the channel. In February 2016, the number of views of the VSU channel videos was 71,300 views.

## LiveJournal

(<http://vsumain.livejournal.com/>)

VSU's account on LiveJournal remains a nearly unique project: only few other universities have LiveJournal accounts. Every week, the administrators publish a new post with original content. In 2015, 41 posts were written.

# 13

## 13.4. VSU MENTIONED IN MASS MEDIA<sup>1</sup>

Figure 13.3

DYNAMICS OF REFERENCES TO VORONEZH STATE UNIVERSITY IN MASS MEDIA (%)

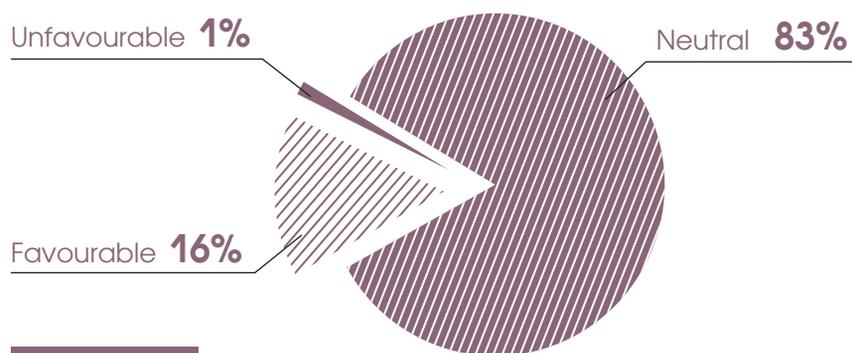
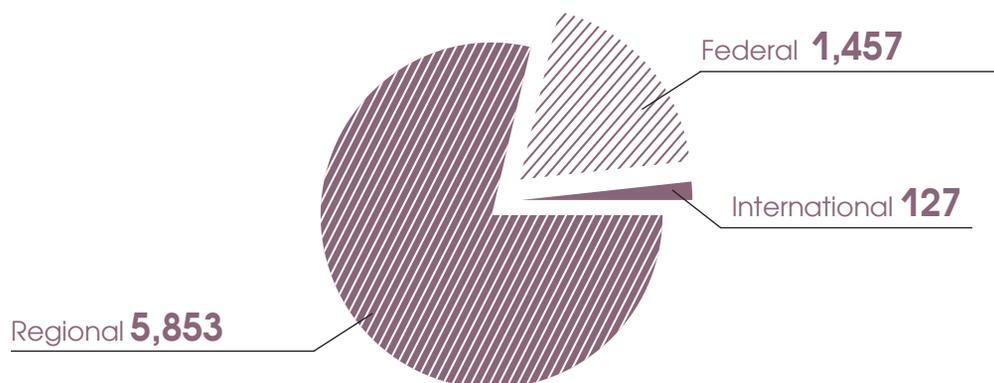


Figure 13.4

REFERENCES TO VSU BY THE SOURCE LEVEL



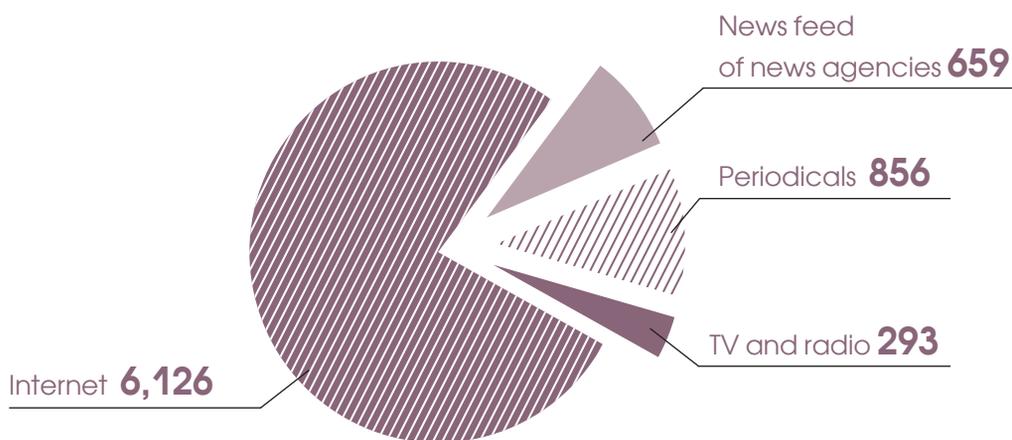
<sup>1</sup> The data were provided by ZAO Interfax in February 2016.



In 2015, there was an increase in the number of publications about the university's activities and achievements in federal media. International media have published materials about VSU on a more regular basis. For example, one of the regular platforms sharing news about VSU with the international community has become a Chinese information portal <http://tsrus.cn/> – a website of the multimedia information resource about Russia – RUSSIA BEYOND THE HEADLINES. It is expected that this application will be introduced into the information space of Germany in 2016.

Figure 13.5

QUANTITATIVE ASSESSMENT OF REFERENCES TO VORONEZH STATE UNIVERSITY BY THE SOURCE TYPE AND LEVEL





## SUBJECT INDEX

- Academic and scientific schools – 130
- Academic Council – 15
- Academic mobility – 272
- Admission campaign – 79
- Asset turnover – 263
- Average salary – 266
- Board of Trustees – 12
- Bursaries – 288
- Business Incubator and Science Park – 208, 215
- Capital construction – 309
- Centre for the Collective Use of Scientific Equipment – 155
- Contracts and agreements with international universities – 271
- Data Processing Centre – 165
- Dissertation boards – 150
- Education quality-assessment system – 110
- Endowment (Special-Purpose Capital Fund) – 237
- Exhibitions – 229
- Faculties and institutes – 31
- Faculty of Military Education – 322
- Financial aid – 286
- Financial analysis of the VSU's activities – 255
- Financial sustainability – 262
- Funding of capital construction and major repairs – 316
- Funding of innovation activities – 176
- Further professional education – 102
- "Galichya Gora" nature reserve – 337
- Graduates' employment – 220
- Grants – 138
- Human resources – 50
- Innovative technologies in education – 99
- International projects – 276
- International students – 278
- Key indicators of the University's development for 2014–2020 – 39
- Leases – 253
- Major repairs – 311
- Military occupational specialities – 323
- Military Training Centre – 324
- Mission and strategic objectives – 38
- National and international ratings – 44
- Postgraduate degree courses and internship – 88
- Pre-university work – 74
- Projects within the Order of the Government of the Russian Federation No 218 – 176
- Projects within the Federal Target Programme, the Russian Foundation for Humanities, and the Russian Foundation for Basic Research – 134
- Publications by the academic staff members – 127
- Rector's address – 3
- Regional Scientific Library – 329
- Report on the achievement of target parameters of the Strategic Development Programme – 41
- Research funding – 124
- Reserve Officer Training Department – 325
- Small innovative enterprises – 175, 183
- Social networks – 346
- Staff reward – 265
- Strategic Development Programme – 40
- Student communities – 292
- "Students' Spring" and "First-Year Student" festivals – 299
- Summer holidays – 283
- University administration – 20
- University entrants from other constituent territories of the Russian Federation – 85
- University scholarship programmes – 94
- Voice over IP – 158
- Voronezh State University Newspaper – 344
- VSU Alumni Association – 239
- VSU effectiveness monitoring – 45
- VSU expenditures – 251
- VSU garage – 319
- VSU income – 252
- VSU patent activity – 180
- VSU structure – 22-23
- VSU Trade Union – 289
- VSU objectives for 2016 – 8
- Wi-Fi network – 158



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